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SCRIPTURE NATURAL HISTORY.

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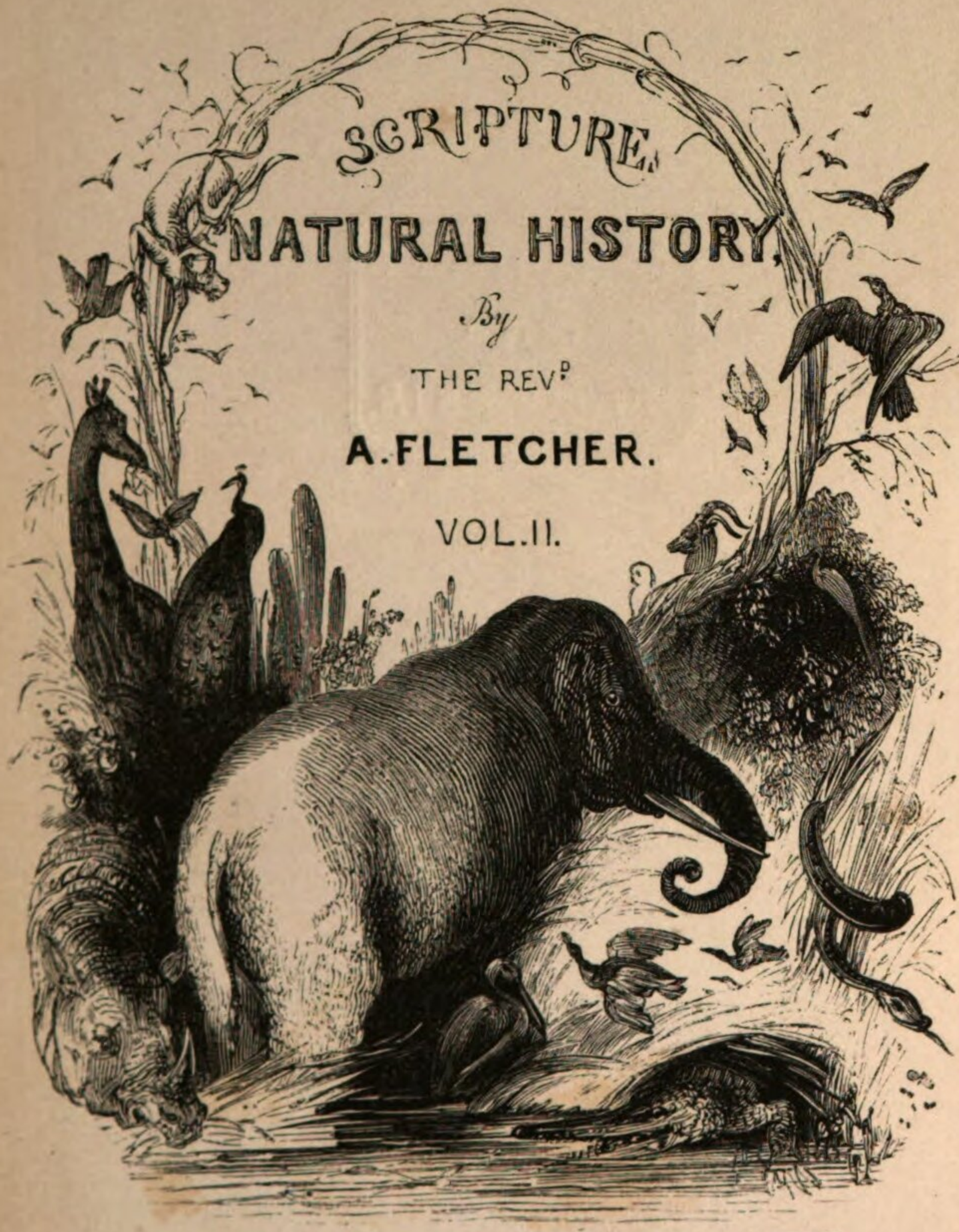
By

THE REV^D

A. FLETCHER.

VOL. II.



LONDON: GEORGE VIRTUE.

SCRIPTURE NATURAL HISTORY.

BY THE

REV. ALEXANDER FLETCHER.

CONTAINING ABOUT TWO HUNDRED AND FORTY DIFFERENT SUBJECTS.

Illustrated by splendid Engravings.

"Praise the Lord from the earth, ye dragons, and all deeps, beasts, and all cattle, creeping things, and flying fowl."—PSALM CXLVIII.

VOL. II.

LONDON:—GEORGE VIRTUE.

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THE HORSELEECH.

SCRIPTURE NATURAL HISTORY.

HORSELEECH.

עלוקה, OLUKAH *To stick fast.*

PROV. XXX. 15.—"*The horseleech hath two daughters, crying, Give, give.*"

THE body of the leech is considerably long and truncate. It has the appearance as if a part were cut off at both ends. The substance is cartilaginous. The motion is singular. The animal dilates the head and tail, and contracts its body into the form of an arch. Some species produce their young alive; others deposit eggs, which they lay on aquatic plants, or carry under their body. There are many young in each egg. Several of the smaller species may be multiplied by cutting into pieces; each portion in time becoming a complete, full-formed leech.

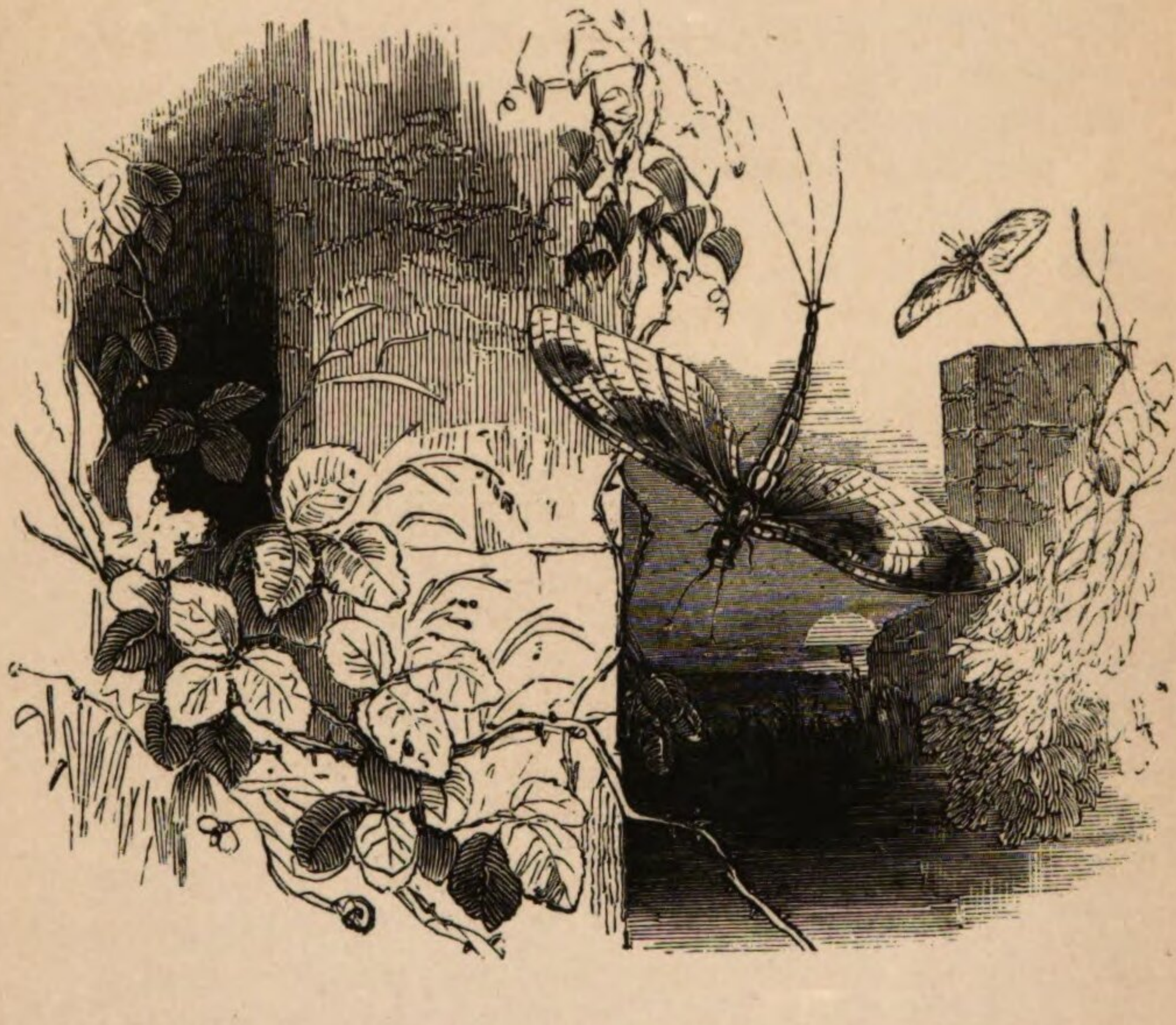
The horseleech, or *hirudo-sanguisuga*, is of an olive-brown colour. It has an ochry-yellow margin on each side. Sometimes it is marked with a few black spots. The body of this blood-sucking animal is depressed. It has in the bottom of its mouth certain great, sharp tubercles, or whitish carbuncles. Its slenderest part is about the mouth, and the thickest about the tail. How-

ever, the tail itself is very slender; the belly is of a yellowish green; and the back dusky. On the whole, it is a repulsive looking creature, and, on account of its habits, it is a favourite of no one. This species of leech is never used in medicine. I cannot precisely state the reason. It is a vulgar notion, that if a horse-leech fastens on the skin it cannot be removed without a portion of the skin on which it fixes. And even if this be not the case, the probability is, from the formation of its mouth, that it would inflict a large, and therefore a dangerous wound.

The instruments by which leeches perforate the skin, are found, on nice and minute examination, to consist of a number of very fine teeth. They are disposed in regular order on three jaws. These jaws are placed between the opening of the lips and the bottom of the mouth, on a strong muscle of its own length. This accounts for the vigour which the animal displays in fixing itself upon the skin before the suction of the blood begins. Hence the wound made by leeches consists of three cuts, proceeding like radii from a centre.

In some degree leeches answer the purpose of a barometer. When preserved in glasses, they show the approach of bad weather by great restlessness and frequent change of place.

The horseleech may be considered as an emblem of a rapacious, avaricious soul. Just emblem! Such persons are as fond of money as this vile animal is of



EPHEMERÆ, OR DAY-FLIES.

blood. As Solomon says, "They devour the poor from off the earth, and the needy from among men."

EPHEMERÆ, OR DAY-FLIES.

It is remakable, that the *larvæ* of the ephemeræ flies live in the waters for the space of three years. When the regular time of their change arrives, it is effected in a few moments. Then it rises to the surface of the water, and becomes a winged chrysalis. It flies to the nearest resting-place, and in a moment it undergoes a second change, and becomes a perfect ephemera. In this state it continues no longer than half an hour. It flutters and dances during its short existence in the sunbeams, and after enjoying a few minutes of gaiety and pleasure, its existence is brought to a close. Affecting emblem of the gay sensualist, whose momentary joys soon pass away for ever!

PEARL.

גביש, GOBISH. *Hailstones.*

JOB, XXVIII. 18.—"*No mention shall be made of coral or of pearl; for the price of wisdom is above rubies.*"

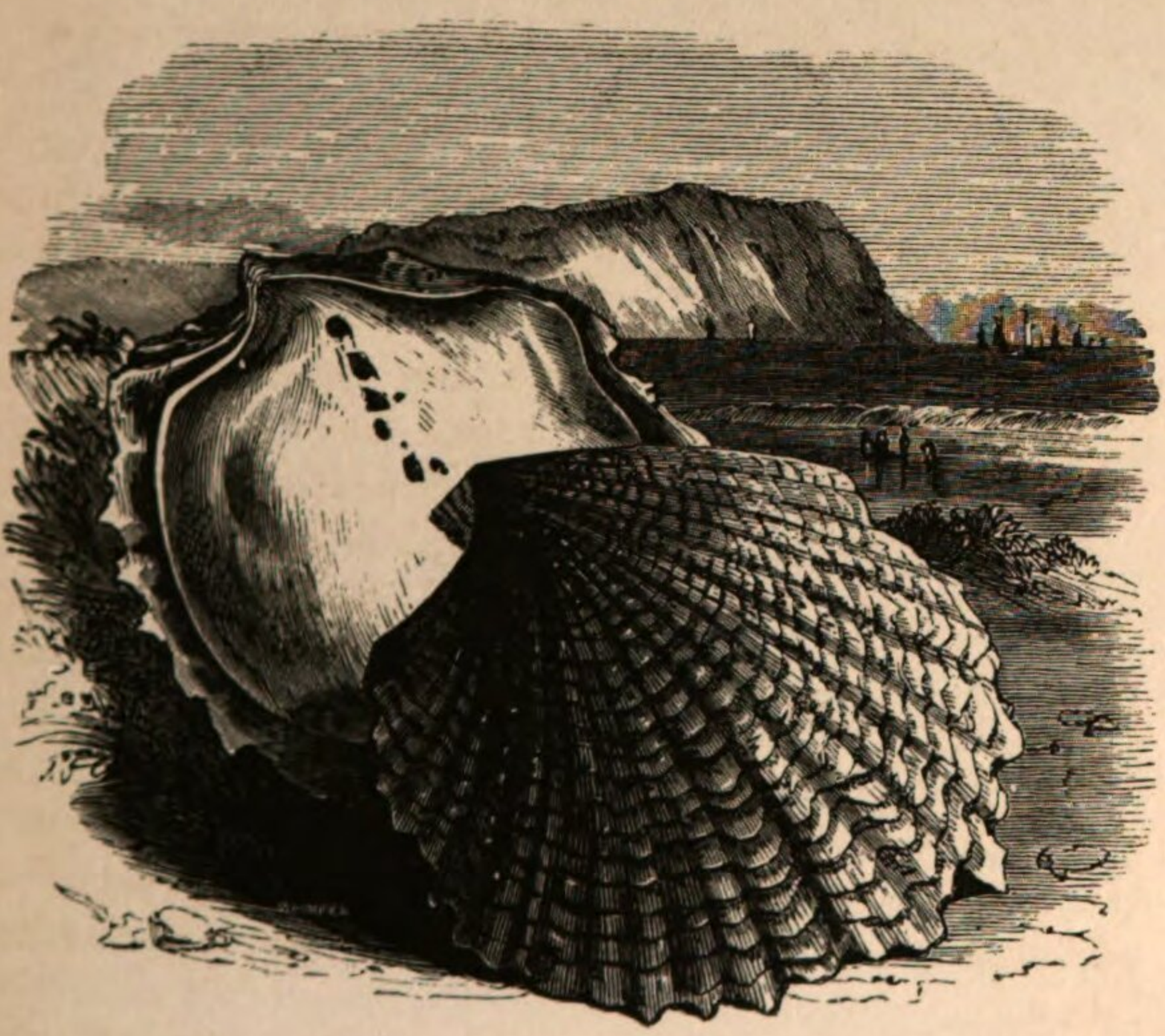
PEARL-OYSTER.

PEARLS are objects presenting to the eye the most beautiful colours, which do not seem so much fixed on the surface, but rather appear in a state of living, varying motion, accompanied with the reflection of various hues and tints, which never can be successfully imitated by the skill or power of the most eminent artists.

Pearls are found in shells, which they resemble in their substance and composition. Respectable writers say that it is formed from a disease in the animal. Pearls are found in various kinds of shells. I have found them in the shells of the horse-muscle, as they are vulgarly called. These shells abound in many of the Scottish rivers, and particularly in the river *Teith*, which flows from the most famous of our northern lakes.

It is said, that common oysters, the *pinna marina*, and several other fish, form pearls. But the most famous pearls are those produced by the *pearl-oyster* of the East Indies, and of the Gulf of Mexico in America.

In zoology, the *ostrea*, or oyster, belongs to the order



THE PEARL-OYSTER.

of *vermes testacea.* The shell consists of two unequal valves. There are as many as thirty-one species, principally distinguished by the peculiarity of their shells. The common oyster is excellent, wholesome, and, to many, delicious food. The oyster differs from the muscle in being unable to change its situation. In the muscle, the tongue answers the purpose of an arm, by which it is assisted in its movement from one place to another. But the oyster has no tongue. Still, however, it can adhere with great firmness to any object with which it is brought in contact.

In May oysters cast their spawn, which sticks to any substance it falls upon. In two or three days they are covered with their shell.

In the East Indies, there are two seasons in which pearl-fishing is prosecuted; the first is in March and April, and the second in August and September. The more abundant the rain, the more plentiful are these fisheries. The diver having cast anchor from his bark, situated where the pearl-oysters lie, he binds a stone six inches thick and a foot long under his body. This serves him as a ballast, and prevents him from being removed by the current of water, and enables him to walk steadily under the waves. The oysters are usually very firmly fixed to the rocks; therefore the divers are provided with leather mittens to protect their hands from injury in attempting to remove them.

Jesus is the pearl of great price, and may he be ours!

HORNET.

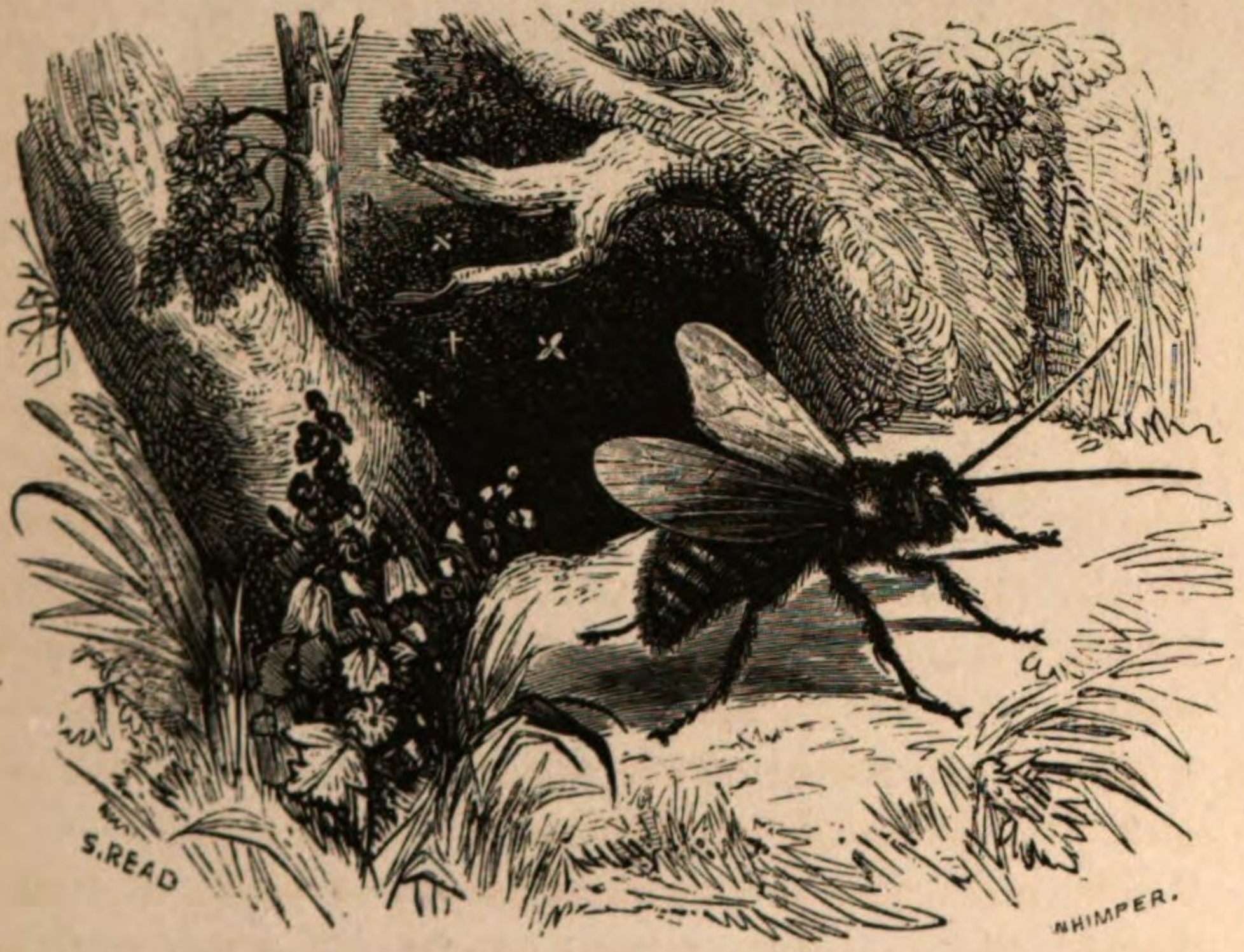
צרעה, TSIREAH. *To strike down.*

JOSHUA, XXIV. 12.—"*And I sent the hornet before you, which drove them out from before you, even the two kings of the Amorites; but not with thy sword and thy bow.*"

IT seems that great swarms of hornets plagued the Canaanites in the days of Joshua. This was foretold by Moses; (Deut. vii. 20;) "Moreover, the Lord thy God will send the hornet among them, until they that are left, and hide themselves from thee, be destroyed." In the passage at the commencement of this article, we have a striking account of the fulfilment of this prediction. Astonishing must have been the swarms of wasps or hornets which were sufficient to fall upon and sting to death multitudes of human beings.

The hornet is a species of *vespa*, or wasp, a genus of insects of the order *hymen-optera*. Their mouth has jaws without proboscis; the upper wings are pleated; the body is smooth; the eyes are lunated; and the sting is concealed.

The hornet, styled by Linnæus, *vespa crabo*, is much more formidable than the common wasp, and is of considerably larger size. Its colour is of a tawny yellow, with ferruginous and black bars and variegations. The hornet selects for its nest the cavity of



THE HORNET.

some old decayed tree, or some hollow immediately beneath its roots. It also sometimes chooses a residence in timber-yards and other similar situations. The nest is smaller than that of the common wasp. Its form is globular, and the opening beneath for the entrance and egress of the inhaitants. The outer covering consists of several layers of the same substance prepared by the wasp, and having much the appearance of paper. Though the cells are formed upon the same principle and plan, they are much fewer in number. The arrangement of the cells is beautiful and of the most perfect order. They consist of stages or stories built horizontally; and each cell is hexagonal. The insterstices of each story are connected at intervals by upright pillars.

The male insect, like the bee, is destitute of a sting. The female deposits its eggs in the cell: one in each cell is appropriated for that purpose: from these are hatched the larvæ or maggots, which bear a near resemblance to those of bees. The labouring wasps feed them by a coarse description of honey. When arrived at their full size, they close up their respective cells with a fine tissue of filaments resembling silk. After a certain period they emerge in their perfect form.

The hornet is extremely voracious. It preys on almost any kind of fresh animal substance which it can obtain, as well as honey, fruit, &c. Its sting is much dreaded, as it is often productive of serio is consequences.

EGYPTIAN VULTURE.

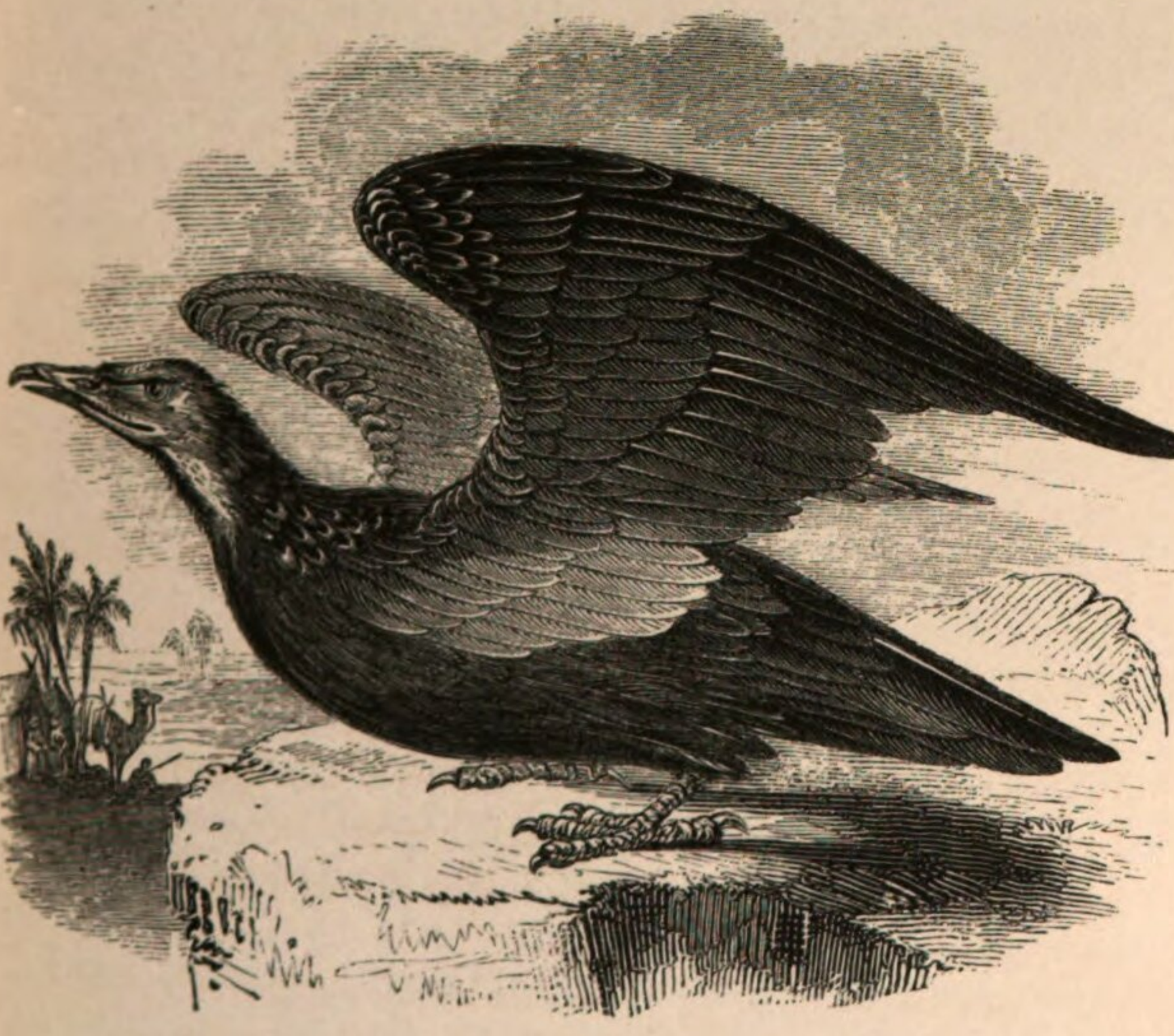
ראה, RAAH. *Rapid.*

ISAIAH, XXXIV. 15.—"*There shall the great owl make her nest, and lay, and hatch, and gather under her shadow; there shall the vultures also be gathered, every one with her mate.*"

OF the vulture genus there are eight species: the condor, the sagittarius, or secretary, and the phœncopterus, or Egyptian vulture, are the most remarkable.

The vultures peculiar to Egypt light in great flocks on the lay-stalls near the city of Cairo. There they feed promiscuously with dogs and other beasts on dead carcases and the most offensive offal. Mr. Hasselquist says, "that they assemble with the kites every morning and evening in the square called *Rolneli*, below the castle, there to receive the alms of fresh meat left them by the legacies of wealthy and great men." This is extraordinary indeed, Mahometans leaving legacies to vultures!

The appearance of this bird is peculiarly horrid and repulsive. The face is naked and wrinkled; the eyes are large and black; the beak black and hooked; the talons large and extending ready for prey; and the whole body polluted with filth. These are characteristics calculated to make the beholder shudder with horror. Notwithstanding all this, even the vulture,



THE EGYPTIAN VULTURE.

loathsome as it is, may justly be considered a blessing from the hand of Providence, for which the Egyptians cannot be sufficiently thankful. The reason is this: all the places around Cairo are filled with the dead bodies of asses and camels. Thousands of vultures, flying about, fall upon these carcases and completely devour their flesh before it putrefies and fills the air with its noxious exhalations.

They do not fly high, and they are by no means afraid of human beings. They are benefits to men by their habits; thus men become their protectors. In this way the vultures acquire confidence, and walk up and down the streets of the Egyptian cities without fear. It is said they follow the caravans to Mecca, and devour the filth of the slaughtered beasts and the carcases of camels which die on the journey. There is a peculiarity belonging to these birds; when one is killed all the rest surround him, as if to lament his death! They are strongly attached to the places they frequent, and will not even quit them, though frightened by the explosion of a gun, but immediately return.

Some are of opinion that this bird was the *ibis* of the ancients. It was a practice of the Egyptians to deify and worship animals which they considered useful, however loathsome in their appearance, or polluted in their habits.

The vulture may be viewed as a figure of the vile and grovelling sensualist!

BARBARY APE.

THERE is a very considerable resemblance betwixt the face of the Barbary ape and that of a dog. Its cheeks are provided with pouches or bags, where it can retain food for future use, and preserve it secure till the cravings of hunger require it. When the animal stands upright it is betwixt three and four feet in height. The colour of its back is a mixture of green and brown, that of its belly is pale yellow. Its teeth are long and canine, that is, resembling the teeth of a dog. Its ears are like those of the human body, and the nails are flat.

This species is found in India, Arabia, and throughout the greater part of Africa, except Egypt. There was a time when some were found on the rock of Gibraltar. As there were none in any other part of Spain, they were probably the descendants of a pair which had escaped from the neighbouring town. In their temper they are remarkable for being ill-natured, mischievous, and fierce. This species is very common in portable exhibitions of wild beasts. They are considerably docile, and can be taught a few fantastic tricks for the amusement of children, and those of an older growth who prefer mental amusement before mental improvement. However, the general character of this species is that of a greater dullness and sullenness than the rest of the genus.

THE BARBARY APE.

They assemble in great and formidable troops in the open fields in India. Sometimes they act the part of highway robbers, and will even dare to attack women going to market, and take their provision from them. It is curious to see the females of this species carrying their young in their arms precisely in the way in which human mothers carry their offspring. Travellers are much struck by seeing them leap from branch to branch and from tree to tree, with their arms around their infant young. This they will do with the greatest safety, notwithstanding the greatest apparent danger.

M. Tavernier says, that the inhabitants of India amuse themselves with these apes in the following way. They place near their abodes and haunts, in an open space, a few baskets of rice with some small cudgels. When all is quiet and no one is in sight, they sally out from their retreat and proceed to the baskets. They begin soon to quarrel about the spoil; they grin at each other for a time, and then take up the cudgels and fall on each other with all their might. The victors keep the field and proceed to feast on the rice as the fruits of their conquest. Here we have a figure of human contests and human victories.

This species was worshipped in India. In Ceylon, when the Portuguese plundered a temple, they found a tooth of this ape in a golden casket, as a most precious relic.

CATERPILLARS.

חסיל, CHASIL. *Consumer.*

JOEL, I. 4.—"*That which the palmer-worm hath left, hath the locust eaten; and that which the locust hath left, hath the cankerworm eaten; and that which the cankerworm hath left, hath the caterpillar eaten.*"

THE caterpillar is an insect occupying a very temporary and an intermediate state. It may be described and defined as a *worm*, which, when it gets wings, is sustained by leaves and fruits. The caterpillar state is that through which every butterfly must pass before it arrives at its perfection and beauty. What a difference betwixt the creeping, loathsome caterpillar, which many shudder even to touch, and the butterfly, with its lovely expanded wings, adorned with colours which almost vie with those of the rainbow! More different the state of believers on earth, in this world of imperfection and darkness, from that state of unspeakable perfection and glory which awaits them in the next.

The egg of a butterfly produces a butterfly in embryo, with all the lineaments of its parent. Only these are not disclosed at first, but for a time they are covered with a kind of muscular coat, provided with numerous feet for walking, which are only suited to its caterpillar state. In a proper time this living covering gradually

CATERPILLARS.

withers till it completely dies. When the butterfly within is sufficiently matured and fit for taking its flight in the open air, this covering breaks in pieces, and the lovely inhabitant bursts the bands of its confinement, and comes forth in all the comeliness of its glory. Emblem it is of the saint, when his soul is separated from the body, or the shell of clay, and bursts forth into all the glories of immortality !

The common food of caterpillars consists of the leaves and verdure of vegetables. And so voracious are they, that if there is a deficiency of food, they will turn upon and eat up each other. M. Reamur took twenty caterpillars of the oak, and shut them up in a box. He observed the number daily decrease, till at last only one remained. They continued devouring one another till only one devourer remained. Alas ! what have many earthly monarchs proved themselves to be ? Great, royal, devouring caterpillars. Disgusting, painful, but just comparison !

Caterpillars are very destructive in gardens. The chief of these devourers is the species that afterwards becomes the common white butterfly. God punished the Egyptians and the Jews by caterpillars. (Psalm lxviii. 46. Joel, ii.)

ANTS.

נמלה, NEMALA. *To cut off.*

PROV. VI. 6.—"*Go to the ant, thou sluggard, consider her ways and be wise.*"

THE Hebrew name given to the ant is very descriptive of its habits. *Nemala*, signifies a *cropper*, or one that *cuts off*. The ant is endowed with this remarkable instinct; it crops off the germs from the seeds of corn, which it lays up for its winter's provision, in such a manner, as to prevent its growth. Without this precaution, the industry of the ants would be altogether in vain and the hoards of corn would become altogether useless. This is one of the innumerable instances of God's wisdom as displayed in the wonderful instincts with which he has endowed his irrational creatures, and without which, their existence could not be continued one hour.

Formica, or the *ant*, in zoology, is a genus of insects belonging to the order of *hymenoptera*. Between its breast and belly there is a small scale. The joint is so deep, that the animal appears as if it were almost cut in two. The females and neuters are furnished with a sting. The males and females have wings, but the neuters have none. There are eighteen species, and are chiefly distinguished by their colour.

It is characteristic of them all, that they keep to-

ANTS.

gether in companies, like the bees, and maintain a sort of republic, exceedingly well regulated. They discover great ingenuity and plan in their nests, if we dare apply such terms to creatures without reason, and wholly governed by instinct. Their nest is not exactly square, but longer one way than the other. In it there is a sort of paths, which lead to their different magazines. Among these creatures we see a wise division of labour. Some of them are employed in making the ground and roof firm. This they accomplish by mixing with it a description of glue, without which it would crumble down and fall upon their heads. Others are sometimes seen gathering twigs which serve them for rafters. They place these over the paths to support the covering. Across these others are laid, and upon them rushes, weeds, and dried grass, which they heap up in a double declivity, and which effectually keep the water from their magazines.

There are many things connected with the habits of ants meriting our imitation, and even wonder. In the summer and harvest they lay up provision for the winter. Let careless sinners think of eternity, and lay up a treasure of grace by which they shall be prepared for the heavenly mansions!

BLACK APE.

THIS ape has received a variety of names. It is called the paniscus, the four-fingered, and the spider-monkey. It has received this last name on account of the great length of its arms and legs, to which its diminutive body bears so small a proportion. The length of this animal is about eighteen inches, exclusive of the tail, which measures nearly two feet, and therefore longer than its whole body. The face is naked, of a copper colour, long and flat. The eyes are sunk in the head, and the ears are like those of the human form. The body is very slender and universally covered with long black hair. Other apes have thumbs; this species has no thumbs, only four fingers on each hand, and hence called the four-fingered monkey. What is very singular, while it has only four fingers on its hands it has five toes upon its feet. As to its long tail it is almost as useful as a hand; being *prehensile*, that is, having the power of laying hold on objects.

This very singular species is found in great numbers in Carthagena, Guiana, Brazil, and Peru. They associate in vast herds, and are scarcely ever seen on the ground.

Dampier's description of them is interesting and amusing. He was an eye-witness of their fantastic and ludicrous gambols. He says, "There was a great number dancing over my head, from tree to tree,

THE BLACK APE.

chattering and making a terrible noise, and a great many grim faces and antic gestures. Some broke down dry sticks and flung them at me. At last one, bigger than the rest, came to a small limb just over my head, and leaping directly at me made me leap back. Then the monkey caught hold of the bough with the tip of its tail, and there continued swinging to and fro, making mouths at me. The females with their young ones are much troubled to leap after the males, for they have commonly two. One she carries under her arm, the other sits upon her back, and claps its two fore-paws about her neck. They are very sullen when taken, and very hard to be found when shot, for they will cling with their tail or feet to a bough as long as any life remains. When I have shot at one and broke a leg or arm, I have pitied the poor creature to see it look and handle the broken limb, and turn it from side to side."

Of all monkeys they are the most active, and quite enliven the American forests. They are often suspended, like a chain, from the tops of trees, linked to each other by their tails. In this manner they swing till the lowest catches hold of a bough of the next tree, and draws up the rest. In this way they actually pass rivers.

HEN AND CHICKENS.

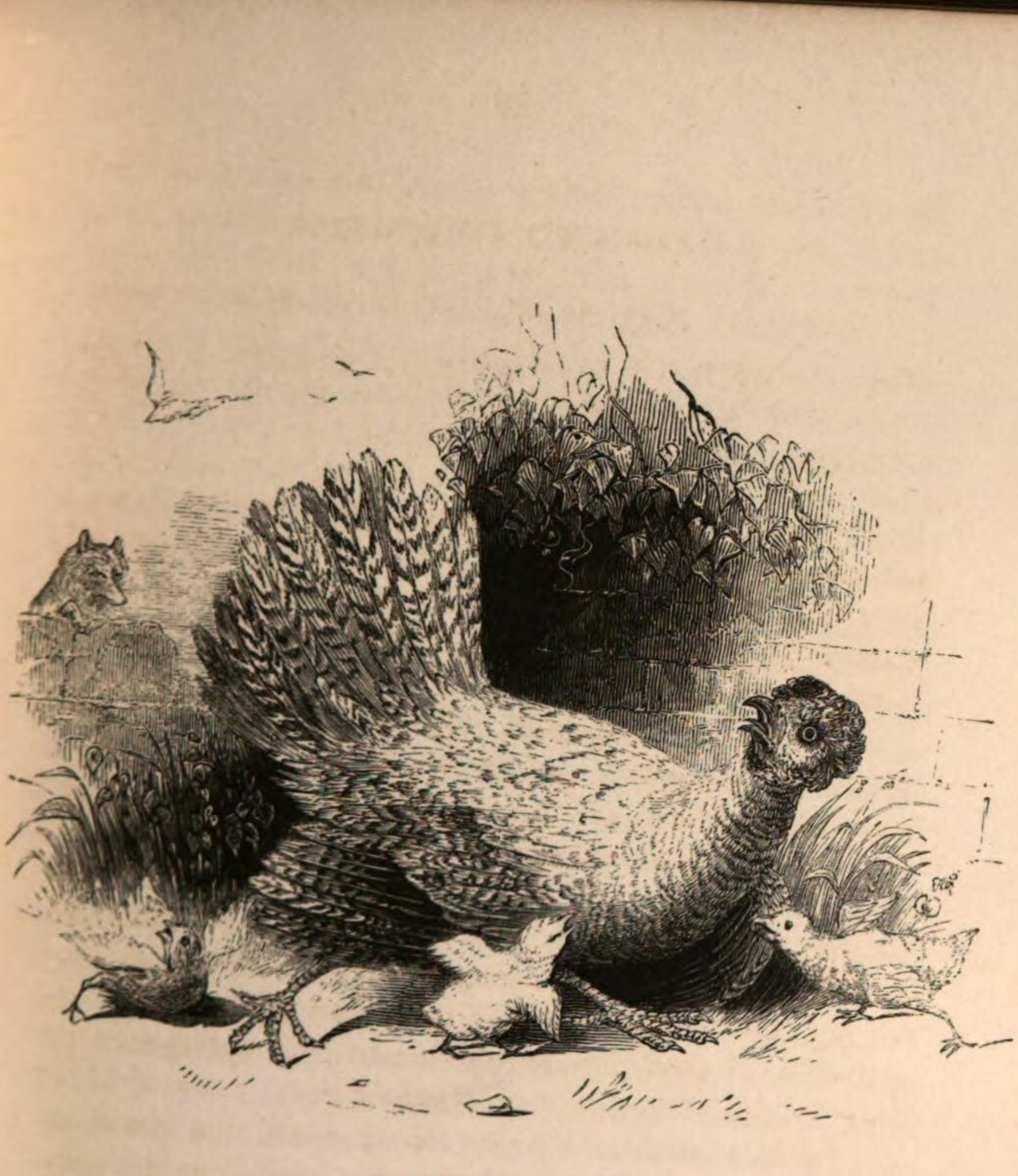
דגר, DAGAN. *Gathering together, or sitting on chickens.*

MATT. XXIII. 3.—"*O Jerusalem, Jerusalem, how often would I have gathered thee as a hen gathereth her chickens under her wings.*

IT is the opinion of some highly respectable Hebrew scholars, that these words in Jerem. xvii. 11; "As the *partridge* sitteth on eggs and hatcheth them not," should be rendered, "As the HEN sitteth on eggs and hatcheth them not."

There are few animals with which we are so well acquainted as the *domestic hen*. It is a creature which contributes much for man's comfort and advantage. Indeed, its whole existence is devoted to man's interest. While it is in the prime of life it provides delicious eggs for his table, and to be mixed up in his food in an astonishing variety of forms. When it is no longer able by the course of nature to furnish this description of food for man's benefit, it surrenders its *body* to him at last as a *meat* offering.

The hen seldom hatches more than one brood of chickens in a season. If she be well supplied with water, food, and liberty, she will lay, in the course of a year, two hundred eggs. In making her nest she shows neither ingenuity nor care. She is perfectly content—unambitious creature!—with scratching a



HEN AND CHICKENS.

hole in the ground, among a few bushes, and there she is pleased to deposit her eggs, and continue during all the period of hatching in her humble tenement, with unwearying delight. Nothing can equal her patience and perseverance. She deserves to be called patience personified. Let impatient, fretful mortals think of the hen upon her nest, continuing for some days immoveable, only leaving it by the compulsion of hunger, and returning to it immediately on satisfying the cravings of nature, and let them feel reproved for their unreasonable and injurious impatience.

While the hen sits upon her nest, she is taught by a mysterious, but necessary instinct, carefully and regularly to turn her eggs, that they may have all an equal share of warmth, without which very few chickens could be hatched, or burst the shell about the same time. At the termination of about three weeks the young brood bursts from their confinement. At once the mother shows the most powerful maternal fondness, and the young to the mother great filial affection. O how beautiful the arrangement of God's works!

It is astonishing the change produced in the hen as soon as the young are hatched. Her whole character is changed. She is as bold as a lion. And even if he were to approach her little chirping family, she would fly upon the lion himself. Her fear for the time is extinct; and she will brave death itself in attempting to preserve the life of those dearer to her than her own existence.

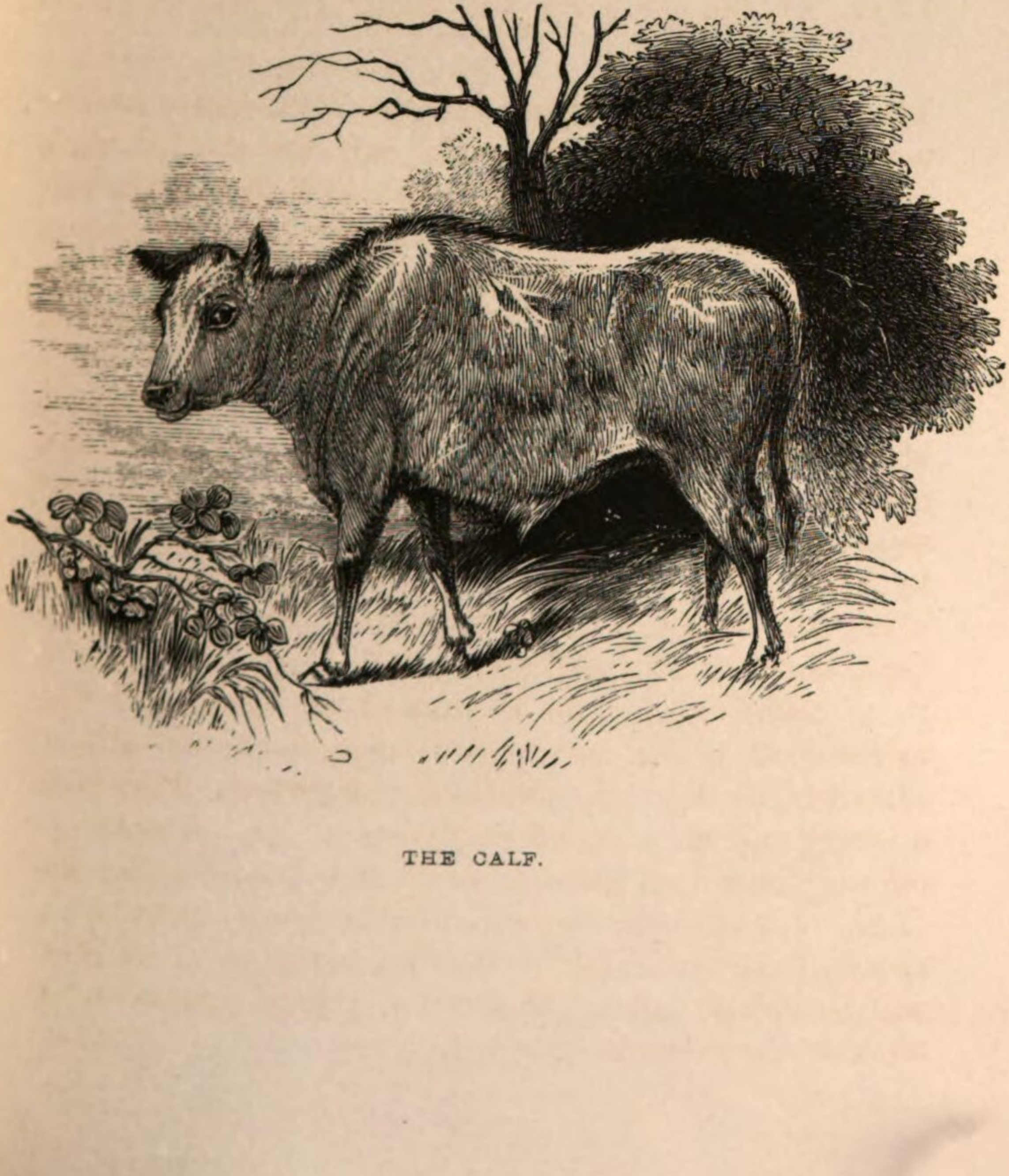
CALF.

עגל, OGEL. *To revolve.*

LUKE, XV. 30.—"*Thou hast killed for him the fatted calf.*"

THE name *ogel*, signifying *revolve*, is evidently emblematical, and was given to the calf for the following reason;—because both to pagans and believers the calf was a representative of fire. And fire is considered as that mighty agent which is the great *circulator* and the natural source of all that motion and circulation which is in the universe.

The CALF is the young of the *ox* kind, and is very often introduced into the sacred page. We often read of the calf as sometimes prepared for food, and at other times for sacrifice. When three angels came to Abraham in human form, mistaking them for men, it is (Genesis, xviii. 7,) "And Abraham ran unto the herd, and fetched a calf tender and good, and gave it to a young man; and he hasted to dress it." The calf was often used in sacrifice under the Levitical law. (Levit ix. 2, 3.) "And he said unto Aaron, Take thee a young calf for a sin-offering, and a ram for a burnt-offering, without blemish, and offer them before the Lord. And unto the children of Israel thou shalt speak, Take ye a kid of the goats for a sin-offering, and a calf and a lamb, both of the first year, without blemish, for a burnt-offering."



THE CALF.

As fatted calves are most delicious provision, Christ is compared to one, to show that his person, righteousness, and salvation are most wholesome, savoury, and nourishing food to believing souls. This striking comparison is used in the memorable parable of the prodigal son. (Luke, xv. 23, 27.) Christ was also typically represented by calves in sacrifice, to point out his purity, patience, and innocence. The dividing of a calf in two was ceremony used in making covenants. On the part of those making the covenants, it implied a wish, that if any of them failed in the fulfilment, God might so break them to pieces. (Jer. xxxiv. 18.) "And I will give the men that have transgressed my covenant which they had made before me, when they *cut the calf in twain*, and passed between the parts thereof; I will even give them into the hands of their enemies, and into the hand of them that seek their life; and their dead bodies shall be for meat unto the fowls of the heaven, and the beasts of the earth."

When the Hebrews were in Egypt, they fell into the abominable idolatry of the country. They worshipped the Egyptian idol Apis, which was a living bull. When Moses was on the mount of God, and tarried, they compelled Aaron to make them a golden calf, before which they committed idolatry. Jeroboam, the first king of the ten tribes, made two golden calves. One he placed at Bethel, and the other at Dan, which were worshipped for two hundred and sixty years. (1 Kings, xii. and 2 Kings, xvii.)

BEES.

דבורה DEBURAH. *To lead orderly.*

JUDGES, XIV. 8.—"*And he turned aside to see the carcase of the lion, and behold, there was a swarm of bees, and honey in the carcase of the lion.*"

BEES receive the Hebrew name *deburim*, signifying *order*, from the admirable management and order they observe in their community. If the affairs of the great community of human beings were conducted with similar order, the great family of man would enjoy a description and an extent of happiness, of which we are unable to form any adequate conception.

The BEE is described as an animal that makes honey, and is remarkable for its industry and art. The remark of the poet is striking :

> **"So work the honey-bees;**
> **Creatures that, by a ruling nature, teach**
> **The art of order to a peopled kingdom."**

APIS, or BEE, in zoology, is a genus of insects belonging to order of *insecta hymenoptera*. The mouth is furnished with two jaws. It has a proboscis with a double sheath, by which it extracts the delicious and wholesome nectar from the bosom of flowers, where it is wisely and kindly deposited by the great and beneficent Creator. The wings are four in number. When at rest the two foremost cover the other two. In the

BEES.

tail of the female, or working-bee, a sting is concealed. These insects are divided into several species; and each species has its peculiar genius, talent, manners, and disposition. This distinction is almost as marked as that which we see among the various tribes of human beings. They differ in the materials, and also in the architecture, employed in forming their abodes. Some live in society, and share their toils, their property, and enjoyments. Others dwell and work in solitude, building the residence of their family. For example, the *leaf-cutter-bee* builds with the rose-tree leaf; the *upholsterer-bee*, with the gaudy tapestry of the corn-rose; the *mason-bee*, with a plaister; and the *wood-piercer-bee* with sawdust.

Linnæus has enumerated fifty-five species. The most remarkable is the *apis mellifica*, the *domestic honey-bee*. This species consists of the queen-bee, the drone-bee, and the working-bee. The drones are larger than the others, and have no sting. It is singular that they go out, from the middle of May till the end of June, in the morning and return in the evening; but without honey. Their whole time is occupied in feeding upon the nectar of flowers, about which they hover, and they never bring home any of the sweet treasure for the benefit of the community.

The *queen* is distinguished from the other bees by the form, size, and colour of her body.

The common, or *working-bee*, is smaller than either the queen or the drone-bee. Having four wings in the

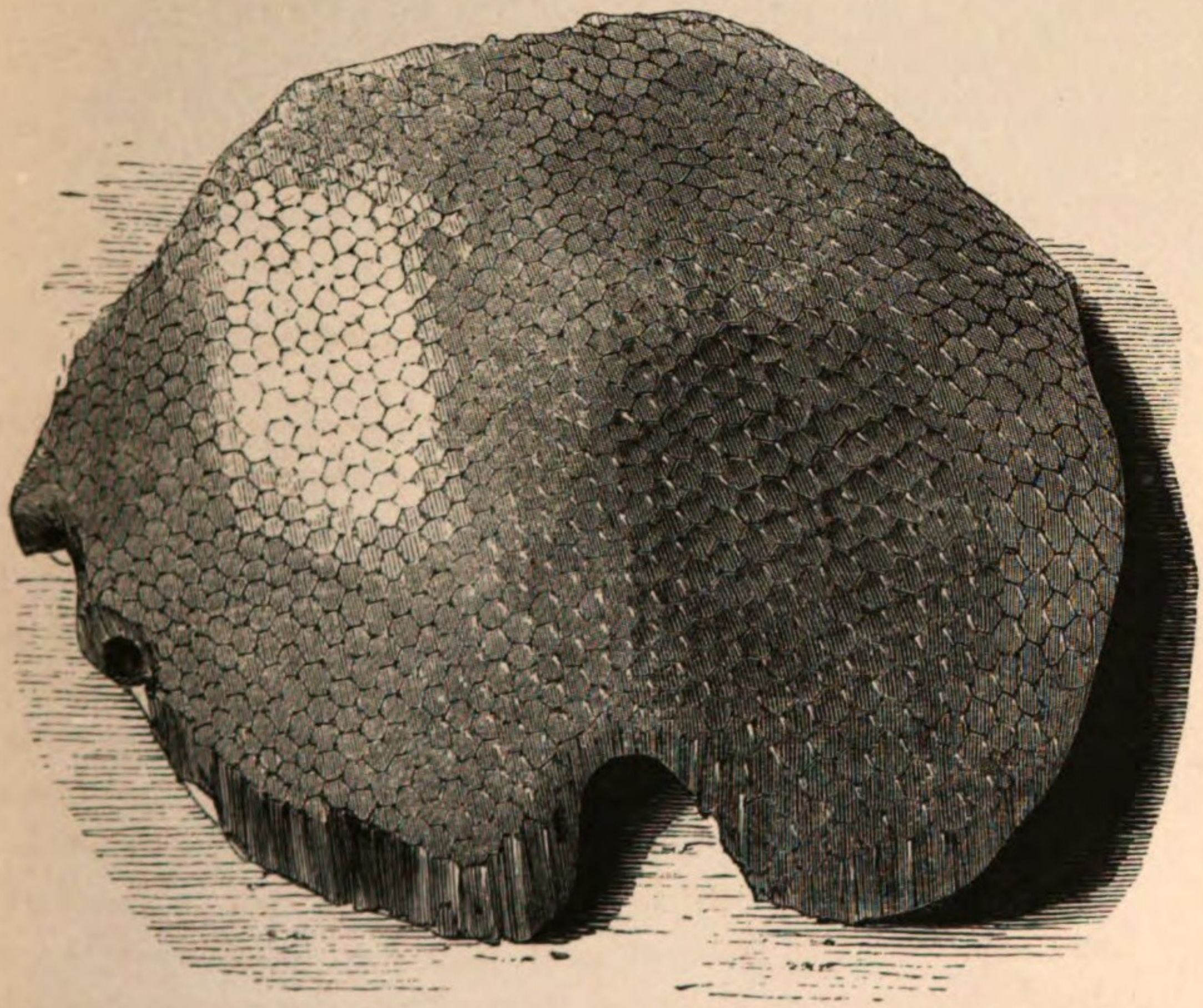
middle part of their body, they are well qualified for carrying along their heavy and precious loads.

HONEYCOMB.

צוּפִים, ZUPHIM. *Enclosing.*

PSALM XIX. 10—"*More to be desired are they than gold, sweeter also than honey, and the honeycomb.*"

EVERYTHING connected with the history of bees is full of interest, calculated to excite our wonder, and to promote our improvement. When they begin to work in their hives, they divide themselves into four companies. One company roves in the fields, and provides materials for the structure of the honey-comb; another company employs the wax provided by the first, and lays out the bottom and partition of the cells; a third company is engaged in making the inside smooth from the corners and the angles; and the fourth company brings food for the rest, or relieves those who return with their respective loads. What is surprising, the companies change their employments by mutual consent, and perform the different parts most amicably by turns. Such is their diligence, that in one day they can build and complete cells for three thousand bees.



HONEYCOMB.

Observe and admire their sagacity in the formation of their cells. As the compass is very limited within which their cells are formed, they use the smallest possible quantity of materials, so that there is no un necessary thickness in the partition-walls. Their edifice too is so formed, that they have the greatest degree of accommodation in the smallest space. And they employ the spot in such a way, that no room whatever is lost. The shape of the cells is hexagonal, that is, six equal sides. By this shape there is an economy of wax, as the partition of one cell makes the partition of the next. Thus no material is lost. Then these cells joined together, there is no loss of space, as there is no void. And there is, by this shape, greater capacity or room within the cell, than by any other form. The mouth of each cell is made considerably thicker and stronger than any other part, as it is most exposed.

The combs lie parallel to each other. Between each of them there is a space left, which serves as a street, and is of sufficient breadth to allow two bees to pass each other without inconvenience. There are also holes which go quite through the combs, and serve as lanes for the bees to pass from one comb to another, without being obliged to go a great way about.

While some of the bees are employed in building the cells, others are engaged in polishing them. They remove everything that is rough or uneven, and carry out of the cells the particles of wax which are taken

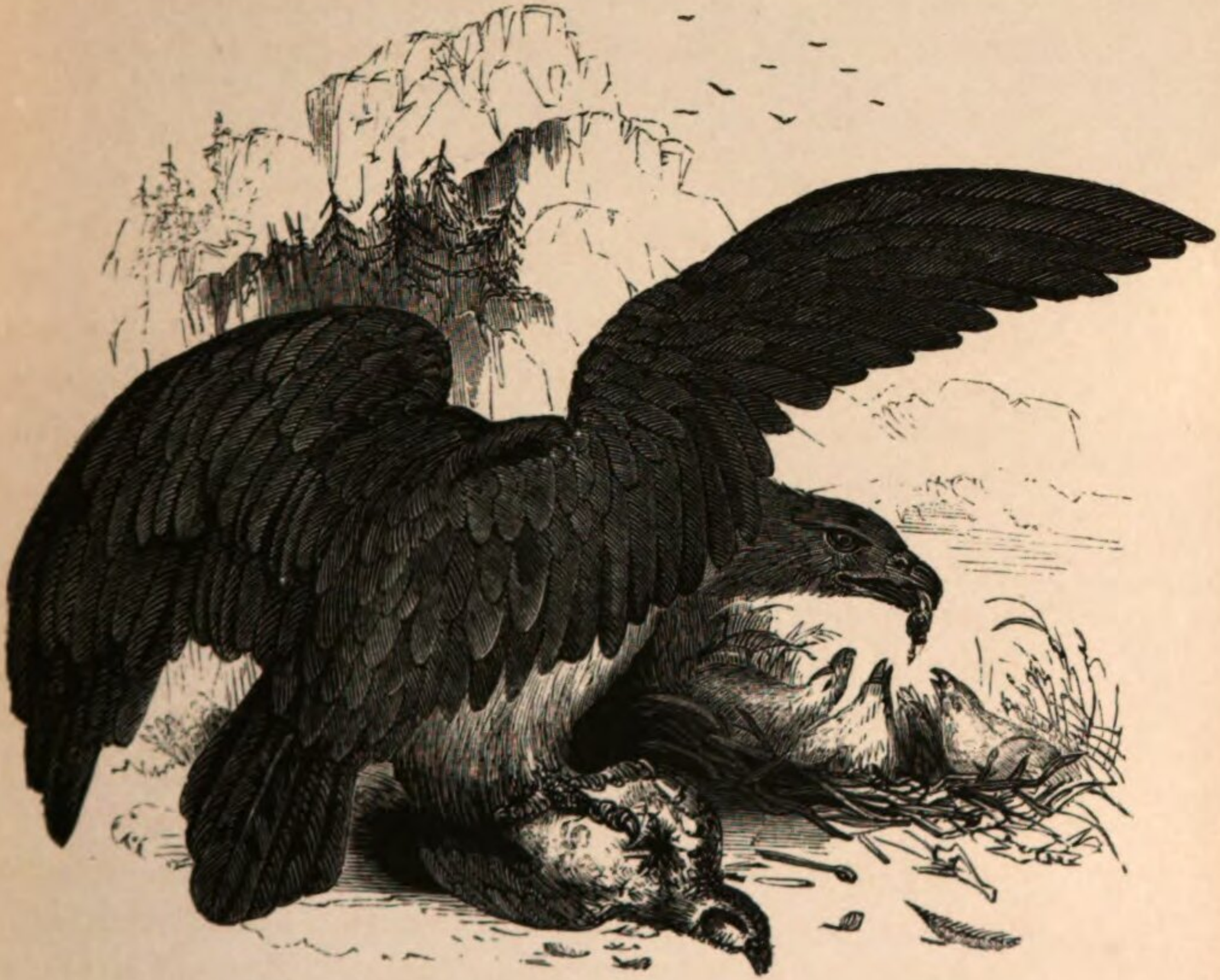
off in the polishing. These particles are not lost. Others are ready to take them from the polishers, and employ them in some other part of the building.

Man shows his wisdom, when even from the bee he learns lessons of diligence, order, and perseverance.

EAGLE FEEDING HER YOUNG.

DEUT. XXII. 11.—"*As an eagle stirreth up her nest, fluttereth over her young, spreadeth abroad her wings, taketh them, beareth them on her wings, so the Lord alone did lead them.*"

THE above quotation shows that the affection of the eagle to her young is singularly powerful. What is true of the lion, the king of beasts, is equally true of the eagle, the king of birds. There was an eagle's nest in one of the islands of the lakes of Killarney, in Ireland. A young man, during the absence of the old eagle, robbed the nest of the eaglets. He attached them to his body, and was in the act of swimming with his prize to the main-land. The old eagle, on reaching the nest with food for her offspring, found they were gone. At last she saw them at a distance, on the shoulders of a man swimming across the lake: she darted through the air with astonishing rapidity, soon reached the ill-fated robber: she fell upon him with the most terrific violence, attacking him with her



THE EAGLE FEEDING HER YOUNG.

talons, her beak, and her wings. She speedily succeeded in so wounding and disabling him, that he became a victim to her maternal rage, and he perished in the waters of that lake, which proved his liquid grave! Whether she succeeded in detaching her young from the drowning man, I cannot tell. But if she did, she conveyed them on her wings in triumph through the sky, and restored them to the nest, where she fed them with the spoii she collected for their nourishment, and then fluttered over them with the fondest affection.

It is said that their attachment to their young is so strong, that rather than suffer them to perish for want, they will feed them with their own blood.

The nest of the eagle is usually placed horizontally, in the hollow or fissure of some high, abrupt rock. It is formed of sticks four or five feet in length, interlaced with twigs easily bent, and covered with layers of rushes, heath, or moss. A nest so constructed commonly lasts a couple all their lives.

It is truly shocking to consider the havoc the eagles make, for the purpose of obtaining provision for their young. In the mountainous parts of Scotland, they actually fall upon the deer and conquer them. They seize them between the horns, and soon subdue them by beating the harassed quadruped with their wings. In Shetland's isles they are wholesale plunderers. They rob the rock-birds, especially gulls and cormorants, of their young. That eagles have seized and destroyed children, carrying them to their nest to be

devoured by themselves and their eaglets, is no fabulous legend. In Norway, Iceland, and the Orkneys, melancholy examples of this kind have not been uncommon.

DEER.

אי׳ל, AIL. *Protection, and a horned animal.*

DEUT. XIV. 5.—"*Ye shall eat the fallow-deer.*"

CERVUS, or deer, in zoology, is a genus of quadrupeds belonging to the order of *pecora*. The horns are solid and brittle; they fall off, and are renewed annually. In the early period of their growth they are covered with a hairy skin.

Linnæus enumerates seven species. There is the camelopardalis, or giraffe, which we have already described. There is the elk, which has palmated horns, and stands six feet high from the ground to its back. Another species is the reindeer, a native of Lapland, and other northern countries of Europe. It is to the Laplanders invaluable, and supplies for them the place of a horse, a cow, a goat, and a sheep. Indeed, it is the only wealth of that far distant, primitive, hardy race of human beings. The milk affords them cheese; the flesh, food; the skin, clothing; the tendons, bow-strings and thread; the horns, glue; and the bones,

DEER.

spoons. Another species is the *fallow-deer*, the Dama, including the buck and doe. This is the species particularly mentioned by Moses in the passage at the commencement of this article. The colour is various; reddish, deep brown, white spotted. The horns are branched and palmated at the top, or resembling the palm-leaves. It is rarely found in France or Germany. It is found in Greece, in the Holy Land, and in China. It is in great abundance in the parks of our rich landed proprietors, both in England and Scotland. It is astonishing how much herds of those lively creatures add to the beauty and interest of picturesque and richly-wooded domains where they roam at large. In a summer's day, while the sky is serene, and the sun shining in his glory, while these fleet and elegantly formed animals are bounding along the verdant vales, they give the idea of being creatures ethereal.

They are very easily tamed. We have an example of this in our royal parks in the neighbourhood of London. I remember, some years ago, one of the loveliest and noblest of the herd in Richmond park coming forward to me, and partaking of the bread which I held in my hand. The flesh of the fallow-deer, which goes by the name of venison, is in high esteem among the luxurious.

During the greater part of the year, the males are found together in flocks by themselves; also the females in flocks by themselves. At times the thirst of

the deer is exceedingly intense. Hence it is used as a figurative illustration of the great ardour of the spiritual desires of believers at a distance from God's house, when they long to enjoy his fellowship in the sanctuary. (Psalm xlii. 1.) "As the hart panteth after the water-brooks, so panteth my soul after thee, O God!"

SWEET CANE.

קנה, KANEH. *To contain.*

ISAIAH, XLIII. 24.—"*Thou hast bought me no sweet-cane with money, neither hast thou filled me with the fat of thy sacrifices.*"

As the Hebrew word *kaneh* signifies *contain*, this shows plainly the reason why the name is given to sweet-cane, or reed, namely, from their capacity of containing substances. The hollow reed is capable of containing water, and the sweet cane contains that precious substance from which sugar is taken.

The sweet cane was well known to the ancients. The substance of the calamus, or sweet cane, was used as an ingredient of the Jewish sacred perfume, connected with their worship in the tabernacle and temple. (Exod. xxx. 23.) "Take thou also unto thee principal spices of pure myrrh, sweet cinnamon, and of sweet calamus," or sweet cane. (Song iv. 13, 14.)

SWEET CANE.

"Thy plants are an orchard of pomegranates, spikenard and saffron, calamus, (or sweet cane,) and cinnamon." The prophet, in speaking of the hypocritical sacrifices of the Jews, says, (Jer. vi. 20,) "To what purpose cometh there to me incense from Sheba, and the sweet cane from a far country?" Speaking of the astonishing traffic and merchandise of ancient Tyre, the prophet remarks, (Ezekiel, xxvii. 19,) "Bright iron, cassia, and calamus, (or sweet cane,) in thy market."

The calamus, or sweet cane, is a reed, aromatic and delightfully fragrant. It is found in pieces of ten or twelve inches long. It is knotty, like a common reed, but not so thick. The hollow of this cane contains a spongy substance, resembling cobwebs, and of a most delightful smell when newly opened up. The sweet cane grows abundantly in the East Indies, where it is used both for food and medicine. A sauce produced from it is said to refresh the heart and to cleanse the stomach. When it is burnt with turpentine, the fume is said to heal diseases of the breast. If it was found useful for such important ends, this easily accounts for the calamus, or sweet cane, forming a part of the traffic and merchandise of the Tyrians.

The calamus is a genus of the *monogynia* order, and of the *hexandria* class of plants. There is no corolla, and the fruit is a dry, monospermous berry. The stem is without branches, has on the top a beautiful crown, and is everywhere beset with sharp spines, or

prickles. This is the true Indian cane. When the external bark is removed, the smooth stick is discovered. In the inner bark there are no marks of spines. These chiefly grow in Sumatra, the largest of the Sunda Islands in the East Indies.

It is supposed that a preparation from calamus formed a part of those aromatic and costly spices which the Queen of Sheba presented to King Solomon. When dried and pulverised, it scents the air all around with the most delightful and refreshing odour.

OAK.

אלון, ALLON. *Strength.*

JUDGES, VI. 11.—"*And there came an angel of the Lord, and sat under an oak which was in Ophrah, that pertained unto Joash the Abiezrite: and his son Gideon threshed wheat by the wine-press, to hide it from the Midianites.*"

THE name *allon*, signifying *strength*, is most justly applicable to the oak-tree. There is not in the forests of Britain a tree so useful and so durable. Under Providence, there is no tree to which we are so much indebted for the defence, the prosperity, and the glory of our land.

The QUERCUS, or oak-tree, is a genus of the *polyan-*

THE OAK.

dria order. The calyx is nearly quinquefid; there is no corolla. It has from five to ten stamina. There are twenty-six species.

An eminent poet of former days thus describes this noble tree:—

"The monarch oak, the patriarch of the trees,
Shoots rising up, and spreads by slow degrees;
Three centuries he grows, and three he stays
Supreme in state; and in three more decays."

The following account, by another poet of by-gone days, with peculiar force, points out how much, in these lands, we are indebted to this far-famed tree:—

"Let India boast her plants, nor envy we
The weeping amber and the balmy tree,
While by our oaks the precious loads are borne,
And realms commanded which these trees adorn."

The *quercus robus*, the oak which abounds in Great Britain, is not found in Palestine. To this, each species in that country is much inferior in size and importance. Lord Lindsay mentions two species which he saw in various parts of the Holy Land, namely, the *evergreen* and the *prickly* oaks. He informs us that the hills of southern Judea, about Hebron, are covered to the summit with the prickly oak. The scenery from Samaria to Mount Carmel very much resembles English park scenery, and is enriched by great quantities of the evergreen oak. This latter oak is mingled with the prickly oak, and covers the

hills in the southern parts of Carmel, and the banks of the Kishon.

British oak, of all the other species, has the pre-eminence both for duration and magnificence of size. In the year 1764, there was an oak belonging to Lord Powis, in Broomfield Wood, in Shropshire, the trunk of which measured in circumference sixty-eight feet, and twenty-three in length.

Linnæus gives an account of an oak two hundred and sixty years old. Many writers agree in the opinion that an oak, in a suitable soil and climate, will last more than six centuries.

In Isaiah, ii. 13, governors and rulers are likened to the strong oaks of Bashan, to mark their power, strength, and firmness, and their fitness to afford protection.

GRASS.

דשא, DESHA. *A bud breaking the husk.*

GENESIS, I. 11.—"*And God said, Let the earth bring forth grass, the herb yielding seed.*"

GRASSES.

BY *grass*, we are to understand the common herbage of the field on which cattle and gramenivorous animals

GRASSES.

feed. Its leaves are long and narrow. In the abundance of grass presented before us by the surface of the earth, we have a remarkable display of the power, the wisdom, and the goodness of God. What a beautiful, grateful, and animating appearance is furnished by the covering of verdant grass, which is spread over our valleys, meadows, plains, hills, and mountains, by the hand of a beneficent Creator!

SPONTANEOUS GRASSES.

In our meadow and pasture-lands, there is a very considerable variety of grasses more or less valuable.

There is the *smoothed-stalked meadow-grass*. This is considered of all others the best. It is early in its foliage. As soon as the influence of early spring begins to show itself, this most useful species springs up in all its loveliness to afford support to those animals which depend upon it for their sustenance. All sorts of cattle are fond of it, and it is as remarkable for its abundance as for its excellence.

Another description of spontaneous grass is the *hard fescue*. It is both early and productive; its foliage is fine, and it grows on downs and rich meadows. Combined with other grasses, it is very suitable for sheep, and is in great estimation as exellent hay-grass.

Meadow *fescue-grass* is perennial and hardy; it thrives almost in every soil; is sweet, luxuriant, and

quick of growth, affording rich pasture, and making good hay.

Rye-grass is much in cultivation, though not suited for meadow or pasture-lands. In agricultural districts in Scotland, this species of grass is cultivated to an astonishing extent, and of which the hay is chiefly made. It is very nourishing as hay, and horses and cattle feed upon it with great avidity. Its foliage is of very rapid growth, and it continually sends forth flowering stems.

We can only notice in addition the *sweet-scented vernal-grass.* It comes early into blossom, and is most valuable for the great facility with which it grows in any soil or climate. It is the only grass in our country which is odoriferous. The agreeable scent of new-made hay is almost entirely produced by it.

In Scripture men are compared to grass. Like grass they grow up; and like grass they wither and decay. (Isaiah, xl. 6, 7.) Wicked men are like grass on house-tops. For a short time they flourish but soon wither under the least blast of calamity. (Psalm cxxix. 6.)

THE MANDRAKE.

MANDRAKE.

דוּדָאִים, DUDAIM. *Beloved.*

SONG VII. 13.—"*The mandrakes give a smell, and at our gates are all manner of pleasant fruits, new and old, which I have laid up for thee, O beloved.*"

MANDRAKE is a species of the ATROPA in botany. The *atropa* is a genus of the *monogynia* order, and *petandria* class of plants. There are eight species, which differ exceedingly in their properties. Some are wholesome, fragrant, and agreeable; while others are filled with the most deadly and destructive qualities. The *mandrake* belongs to the one class, and the *bella donna*, or *deadly nightshade*, belongs to the other. What we find physically in the families of vegetables, we find morally in the family of man. One member of a family we find adorned with the most gentle, tender, and affectionate dispositions, while another is the subject of the most hateful and injurious passions. One is the blessing and benefactor of his species, while the other would not hesitate to murder and destroy his fellow-creature. Would to God that the examples of this latter description were rarely to be found!

The *atropa mandagora*, or mandrake, has been distinguished into male and female. The male mandrake has a large, long, thick root. It is generally divided into two or more parts. When parted into two, many

have been struck with the resemblance which it bears to the body and thighs of a man. From the root rises a number of very long leaves, broad in the middle, and obtusely pointed at the ends. They are about a foot in length, and about five inches in breadth. It grows naturally in Spain, Portugal, Italy, and the Levant.

The Hebrew name *dudaim*, which is translated *mandrakes* in Scripture, only occurs two times in the Holy Bible. The first is in Gen. xxx. 14, 15, 16; and the other in Song vii. 13. The blossoms of this plant, in Palestine, are of a purple colour; but in this country, of a greenish white. In this country, the fruit when ripe is small, not larger than a nutmeg, and is poisonous. In Palestine, the fruit attains the size of a small apple, is ruddy, of an agreeable odour, and wholesome.

Hasselquist, when at Nazareth, saw great numbers of mandrakes growing in a valley below the eminence on which the town is built. He saw the fruit hanging ripe on the stem, and some lying withered on the ground. The fruit is ripened in the month of May, which in Galilee is the time of wheat harvest. The Jews attached many superstitious notions to the mandrake, probably originating in its resemblance to the human form. They considered it sufficient to expel evil spirits, because they could not endure its smell.

CORIANDER.

CORIANDER.

גד, GAD. *Penetrating.*

EXOD. XVI. 31.—"*And the house of Israel called the name thereof manna; and it was like coriander-seed, white; and the taste of it was like wafers made of honey.*"

CORIANDER receives in Scripture the name *gad*, from its penetrating and attenuating qualities.

Linnæus describes *coriander* as a kind of the *pentandria digynia* plants. The corolla is difform, and radiated; the stamina are five simple filaments; the fruit is a roundish berry, containing two seeds, half round, of a pleasant fragrance and a pleasant taste.

There are only two species, both herbaceous annuals. The leaves are useful for the kitchen, and the seeds for medicine. Even the qualities of plants should teach us wisdom. As God has given to plants properties by which they are useful to man, he has given us talents which, if properly employed, may be useful for the loftiest and most important purposes, namely, the benefit of our fellow-creatures, our own interest, and the glory of God. What a painful source of painful reflections on a dying-bed, that they have neglected the proper employment of their faculties,—that they have led useless lives!

Both species of the coriander have small, divided

leaves, somewhat resembling parsley. There is only one species generally cultivated, namely, the *sativum*. The root of the sativum is small, fibrous, and white. It is crowned by many parted leaves, having broadish segments. In the centre there is an upright, round, branchy stalk, two feet high. All the branches are terminated by umbels of flowers, which are succeeded by globular fruit.

The coriander is propagated by seed. When an excellent, abundant crop is wanted, it ought to be sown in the month of March, either in drills a foot asunder, or by broad cast, and then raked in. In the cultivation of coriander, it is proper to observe that, when the plants are an inch or two high, they should be hoed to six or eight inches distance. When the seeds are fresh they have a strong and disagreeable smell. When they become dry, the smell improves, and becomes grateful. They are recommended as carminative and stomachic. Sometimes the leaves are used for culinary purposes, as in soup, and also as an ingredient in salads.

It is said in Scripture, that the manna resembled coriander-seed, in respect of its form and size. The two seeds together are about the size of a pea. The seed of the coriander is greyish, the manna was white; therefore the resemblance must have been in shape and not in colour.

THE RED MONKEY.

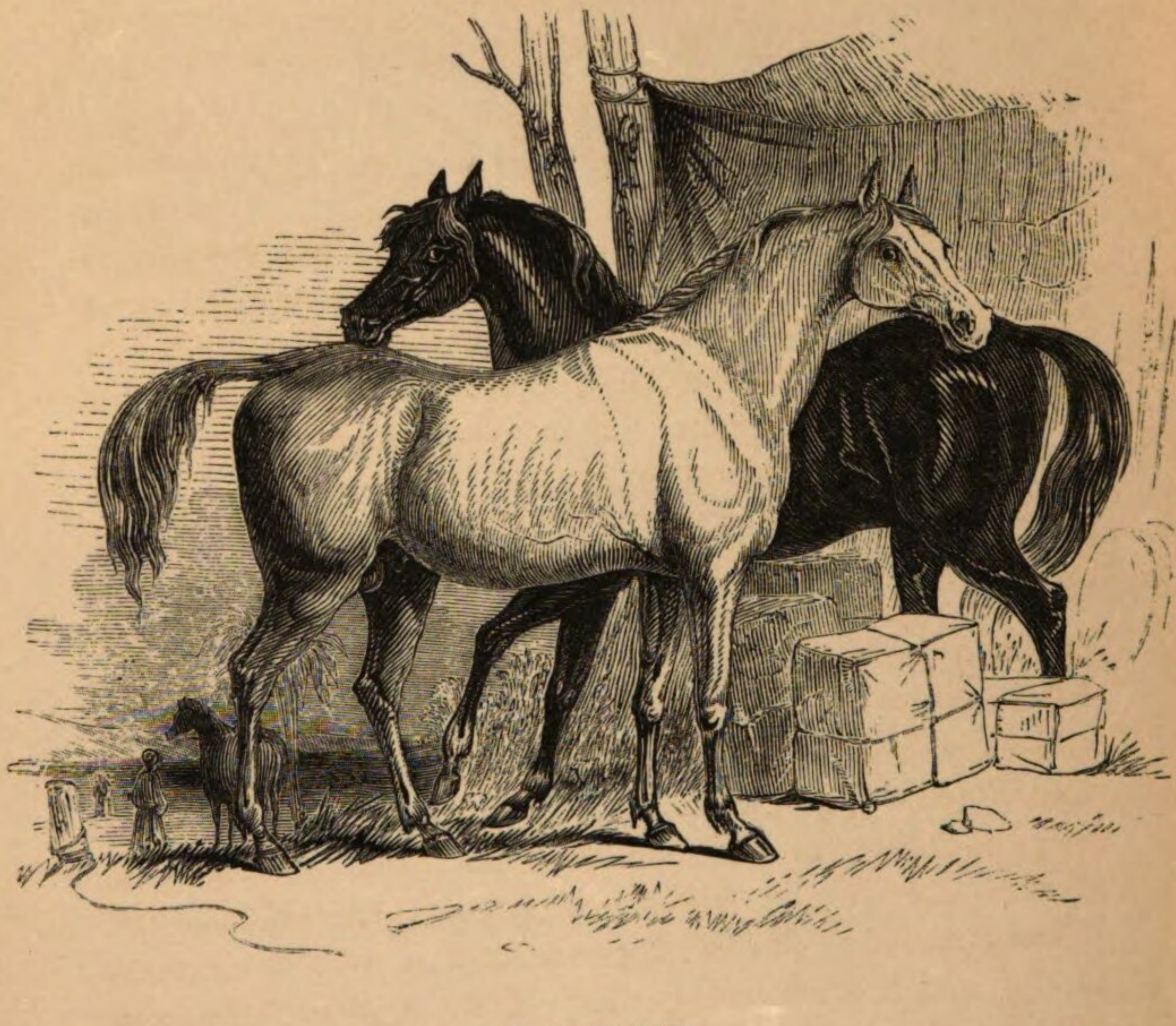
RED MONKEY.

THE PATAS, or red monkey, *simia rubra*, is of a reddish fawn-colour, rather lively in the upper parts of the body, and whitish below. It has a black band over the eyes, sometimes surmounted with white. It is a native of Senegal, Congo, and other hot parts of Africa. This species is tailed and bearded. The crown, the back, and the tail, are of a deep red colour. There are two other varieties; the first is provided with a yellow beard, while the band over the eye is black. The second is furnished with a white beard, and the band over the eye is also white. The height of the red monkey is from eighteen inches to two feet.

The red monkey is a pretty animal. We even see the sovereignty of the Deity displayed in the comparative beauty given to some species of the family of monkeys, and the disgusting deformity given to others. But what the red monkey has in outward beauty, it is in a proportionate degree defective in agreeable disposition. It is violent, capricious, mischievous, and very little susceptible of attachment. In this it is a picture of too many human beings, who boast of their personal accomplishments and loveliness of countenance, while their minds are under the dominion of selfishness, and the most restless passions. These animals have discovered a very considerable portion of curiosity, very amusing to those travellers who have

witnessed it. M. Brue says, "They descended from the tops of the trees to the extremity of the branches, earnestly noticing, and apparently entertained by the boats as they passed along the river. They then began to take courage, and pelt at the boats with pieces of wood, thus provoking an unequal contest. When fired upon they uttered the most frightful cries, and though many fell, such was their fortitude, that the survivors appeared by no means willing to relinquish the encounter. Indeed, they redoubled their efforts; some flung stones at their adversaries, and for a similar purpose collected filth. They discovered much determination of spirit, which must have been of the greatest service to them when contending in the forest with those animals which were more upon a level with themselves as to strength and number."

It is worthy of notice, the great bias of most of the irrational animals to warlike operations. This is seen illustrated by the habits of animals from the animalculæ swimming in a drop of water, upward through all the links of animated nature, till we reach the largest animals of the Creator's workmanship.



THE HORSE.

HORSE.

סוס, SUS. *To leap for joy.*

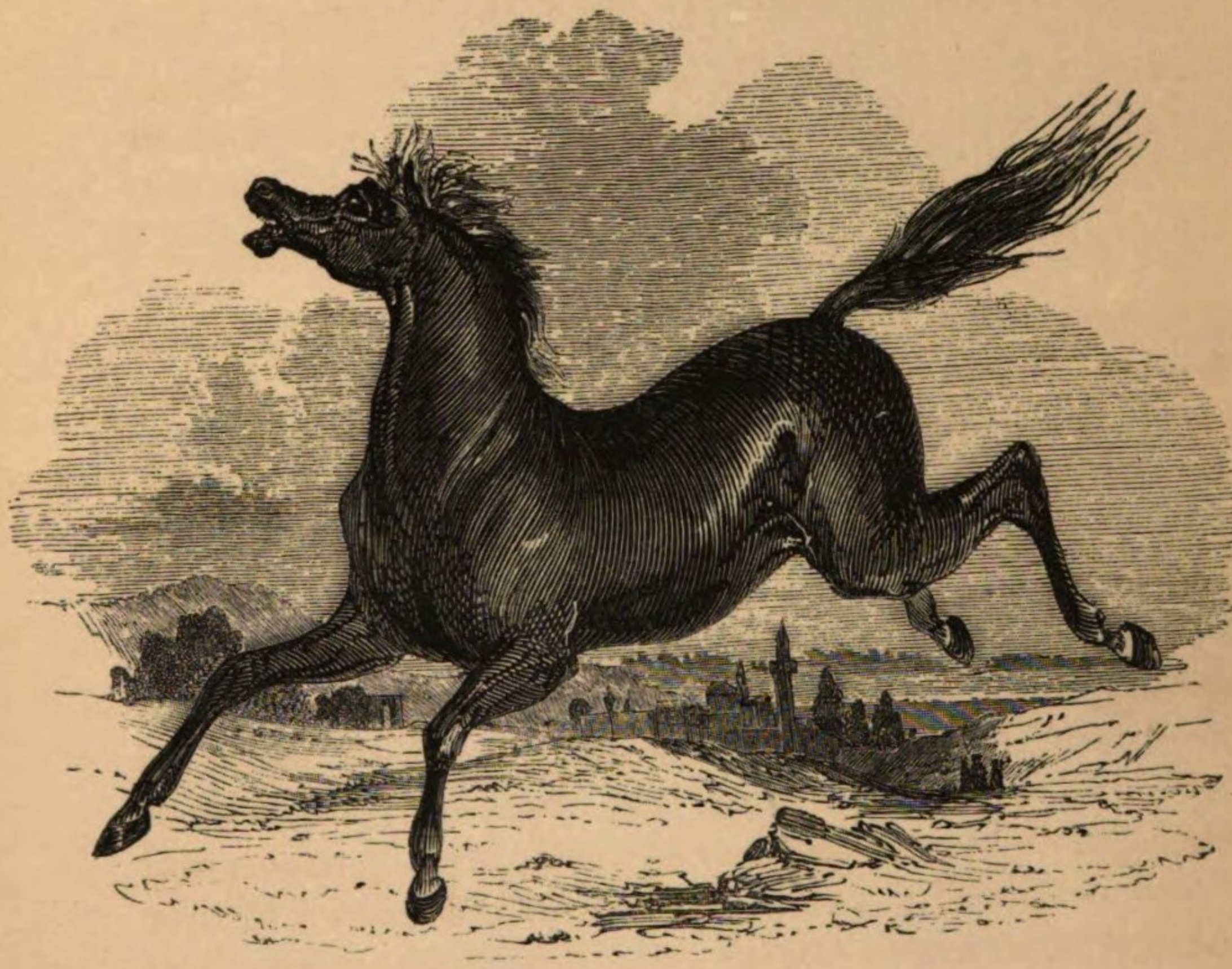
JOB, XXXIX. 19.—"*Hast thou given the horse strength? hast thou clothed his neck with thunder?*"

THE name *sus*, signifying to exult, or leap for joy, is given to the horse in the inspired volume because of that activity, alacrity, and sprightliness for which he is undoubtedly remarkable, beyond almost any other species of quadrupeds. How very striking and accurate the description of Job: "He exulteth in his strength." (Job, xxxix. 21.) Even in our northern, and comparatively cold climate, horses are eminent for their sprightliness; but in warm climates they are much more distinguished for this animating quality. Job resided in the land of Edom, where horses are known in their highest perfection; we mean the Arabian breed. In ancient times idolatrous nations consecrated horses to the sun, or solar light. Herodotus, at the end of the first book, says of the *Massagetes*, "They sacrifice the swiftest, or most active of animals to the swiftest of the gods." They regarded the sun as the only God, and to him they sacrificed horses. It appears that this kind of idolatry had even infected Judea, for we read (2 Kings, xxiii. 11) of the horses which the kings of Judah had given to the sun.

The qualities and uses of the horse are various and

numerous. He is one of the noblest of the brute creation, distinguished for comeliness, perfection of symmetry, swiftness, majesty of appearance, boldness, docility, strength, and fitness for burden, draught, or war.

The characters of the horse, or *equus caballus*, are, hoofs undivided, and mane and tail, with long, flowing hair. This noble animal has been so much and so long connected with man, that history does not mention a period when horses were untamed. Still, however, multitudes of them are found in a wild state in many parts of the earth. Large herds are occasionally seen in the southern parts of Siberia, in the great Mangolian deserts, and among the Kalkas, to the north west of China. At the Cape of Good Hope there are numbers of unreclaimed horses. They are diminutive in their size, very vicious, and difficult to tame. They are found wild in several other parts of the African continent, but the wretched inhabitants are sunk in such ignorance and indolence, so unacquainted with the services they are calculated to render to man, that they make no more attempt to tame them than to tame lions. In Spanish America there is an abundance of wild horses. There is little doubt that they are descended from the Andalusian breed, originally introduced from Spain by the first conquerors.



THE ARABIAN HORSE.

HORSE.

Ιππος, HIPPOS. *To fly with the feet.*

JAMES, III. 3.—"*Behold, we put bits in the horses' mouths that they may obey us; and we turn about their whole body.*"

ARABIAN HORSE.

THE horse in Syria is generally of Syrian dams, and of Arabian sires, fifteen hands high, and strong and active. They are hardy, well-tempered, sure-footed, remarkably free from disorder, and live to a great age. They will follow their groom as a dog follows his master.

The Arabian horses are of a more slender make, less showy, but beautifully limbed, more hardy, and reckoned much fleeter. Of all countries in which the horse runs wild, Arabia produces the most beautiful breed, and also the most generous, swift, and persevering. They are found in small numbers in the deserts of that country, and are so highly valued by the natives, that they employ every stratagem for obtaining them.

It is probable that Arabia was the original country of the horse, since there the utmost care is taken not to cross, but maintain the breed entire. The Arabian race of horses has been diffused in Barbary, Egypt, and Persia.

The Arabs keep their horses in the open air all the

year round. Though exposed to the inclemency of the weather at all seasons, and very little attention paid to its health, it is seldom ill. From the time a colt is first employed for the purpose of riding, the saddle is scarcely ever off its back. In winter a sackcloth is thrown over the saddle, but in summer the horse stands exposed to the mid-day sun. Many of the Arabs use, instead of a saddle, a stuffed sheep-skin, and without stirrups. They ride without a bridle, and employ a halter instead. So attached is it to its master, and so great the kindness with which it is treated, that it feels itself rather the friend, than the slave of man.

How beautiful the description given in the book of Job, in the address delivered to that patriarch by God himself: (Job, xxxix. 19, &c.:) "Hast thou given the horse strength? hast thou clothed his neck with thunder? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley, and rejoiceth in his strength: he goeth on to meet the armed men. He mocketh at fear, and is not affrighted; neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and the shield. He swalloweth the ground with fierceness and rage; neither believeth he that it is the sound of the trumpet. He saith among the trumpets, Ha, ha! and he smelleth the battle afar off, the thunder of the captains and the shouting."

EBONY.

EBONY.

הובנים, HOBNIM. *Blackish.*

EZEKIEL, XXVII. 15.—"*The men of Dedan were thy merchants; many isles were the merchandise of thine hand; they brought thee for a present horns of ivory and ebony.*"

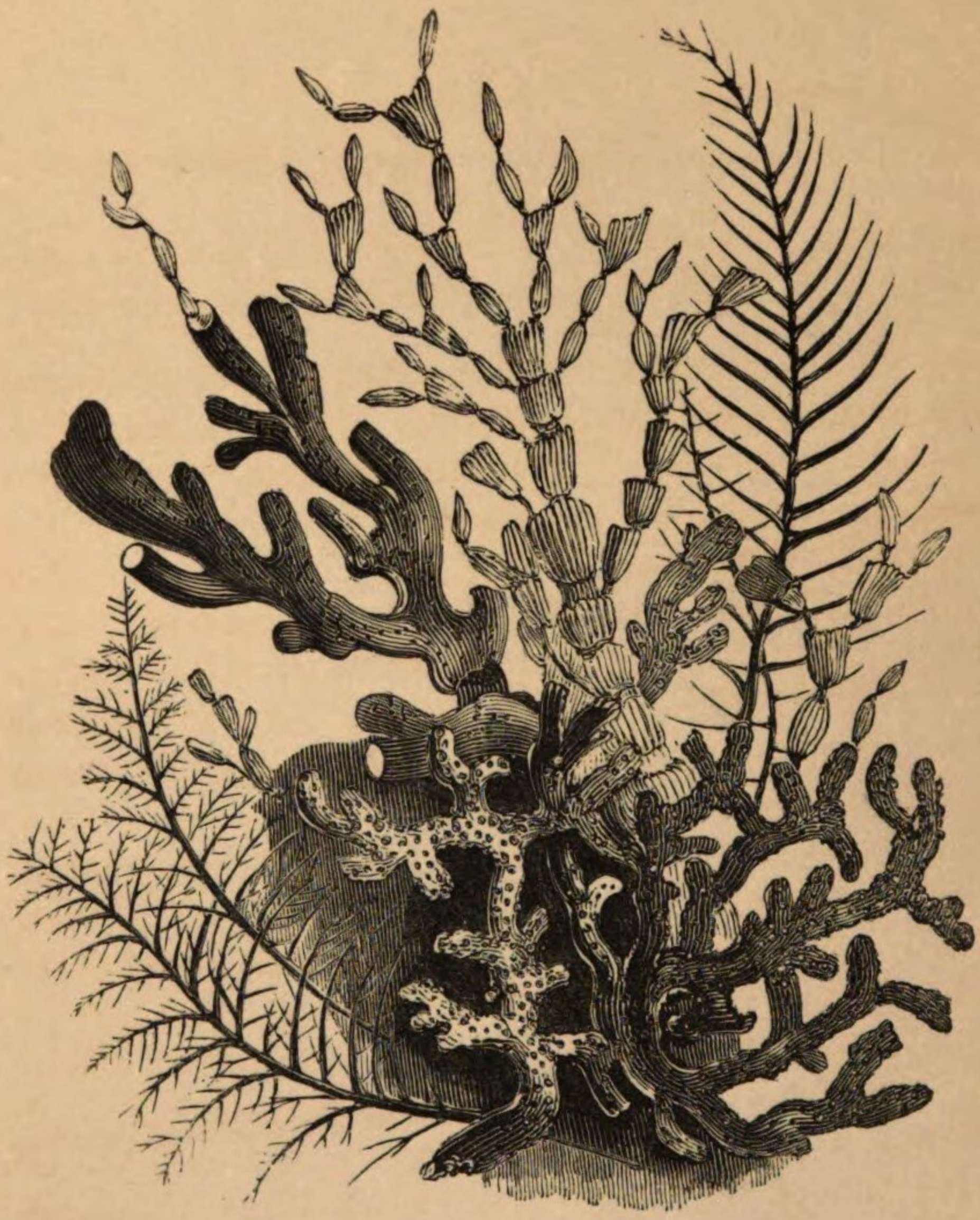
EBONY-WOOD is brought from the Indies, and from places on the coasts of Africa. Even as far back as the days of Herodotus, that most ancient of uninspired historians, says, that Ethiopia produced ebony. It is very black in the colour, exceedingly hard and heavy, and susceptible of a very fine polish. On this account it is used in mosaic and inlaid works. There are many kinds of ebony. The most usual is black. But there are also red and green. These different kinds are to be found in the island of Madagascar. The island of St. Maurice likewise furnishes part of the ebonies used in Europe.

There are very different accounts of the tree that yields the black ebony. The most authentic account is that of M. Flacourt, who resided many years in Madagascar. According to his information, it grows very high and large; its bark being black, and its leaves resembling those of the myrtle, of a deep dusky-green colour. It is said that the islanders are very careful to bury their

trees, when cut down, to make them the blacker, and to prevent them from splitting when wrought.

Black ebony is considered much more valuable than those of other colours. The best is a jet black, free of veins and rind, very heavy, astringent, and of an acrid, stringent taste. In consequence of these properties, it must be remarkably durable. The rind has medicinal qualities. Infused in water, it is considered antiscorbutic. When laid on burning coals, it yields an agreeable perfume. The green very easily catches fire, from the abundance of its fat. From the durable nature of this wood, and on account of the fine polish which it receives, it is a favourite wood with the blinded pagan Indians for making their gods, and also sceptres for their princes. After Pompey subdued Mithridates, King of Pontus, in Lesser Asia, he was the first who brought ebony to Rome, as far back as about sixty years before the commencement of the Christian era.

The green ebony, besides in Madagascar and St. Maurice, likewise grows in the Antilles, and in very considerable abundance in the isle of Tobago. The tree is bushy; its leaves are smooth and of a fine green colour. Under its bark is a white substance about two inches thick. All beneath, to the very heart, is a deep green, approaching to a black, and sometimes streaked with yellow veins. Its use is not confined to mosaic work and toys; it is also employed in dyeing, the decoction yielding a fine green tincture.



CORAL.

CORAL.

ראמות, RAMUTH. *To raise up.*

JOB, XXVII. 18.—"*No mention shall be made of coral, or of pearls; for the price of wisdom is above rubies.*"

RAMUTH, the Hebrew name of coral, is derived from a word literally signifying to *lift*, and *raise up*, or to have lofty branches. Coral lifts itself to some height above the water, and might therefore be called the "branching-stone."

Coral is found near the Bastion of France, near Marseilles, in the Mediterranean, in the Red Sea, in the Persian Gulf, and on the coast of Africa. Islands of the Pacific Ocean consist wholly of coral in their original structure.

The coral is a hard, cretaceous, marine production. In figure it very much resembles the stem of a plant, divided into branches. It is of different colours, the white, the black, and the red. The last is called, by way of eminence, *coral*, as it is the most valuable, and best fitted for being formed into ornaments. Though it is not a gem, yet, being highly prized, it is placed by Job among those precious commodities which are infinitely surpassed by wisdom in usefulness and excellence.

Coral is formed by an insect. A substance is exuded from the insect, which combines with some other

substance attracted from the waters of the sea, and which is employed by the insects in producing what is called the coral-plant, the object of the admiration of the attentive student of nature. The beautiful fibres of the coral are hollow, and are therefore the residence and the castles of the diminutive insect-architects by which they are reared. It is therefore, strictly speaking, incorrect to call the coral a *submarine plant*.

When we consider the immense quantities of coral which exist in various parts of the globe and under the surface of the sea, who can conceive the myriads of millions of insects which have been employed, under the superintendence of the Deity, in the rearing of masses equal to mountains in magnitude? And particularly, when we think that these diminutive builders are carrying constantly forward those coral formations, which may form the foundation of numerous future islands, which shall be covered with verdure, beauty, and luxuriance.

A very extensive trade is carried on in different parts of the earth in fishing for that kind of coral which is most highly prized, and found at the depth of from sixty to a thousand feet.

THE VINE.

VINE.

גפן, GEPHEN. *To adhere.*

GEN. XL. 9.—"*And the chief butler told his dream to Joseph, and said unto him, In my dream, behold, a vine was before me.*"

THE name *gephen* is given to the vine, because of those tendrils by which it lays hold of that which is necessary for its support. All who know this plant are aware that it is remarkable for its weakness. Hence, says the prophet, (Ezekiel, xv. 2, 3,) "Son of man, what is the vine-tree more than any tree? or than a branch which is among the trees of the forest? Shall wood be taken thereof to do any work, or will men take a pin of it to hang any vessel thereon?" It is so weak, that it could not support itself without tendrils to lay hold of some neighbouring trees. Hence Horace, the elegant Latin poet, says;—

"To the clasping vine
Does the supporting poplar wed."

and also Milton:—

"They led the vine
To wed her elm; she, spoused, about him twines
Her marriageable arms."

The *vitis*, or *vine*, is a genus of the class *pentandria*, and order *monogynia*. The petals cohere at the top; the fruit is a berry with fine seeds. There are twelve

species; the most important of which is the *vinifera*, or common vine, which has naked, lobed, sinuated leaves. The varieties are numerous. Vines thrive best in a warm, southern climate, but are not found to prosper near the equator. They were exceedingly plentiful in Canaan, especially in the territory of Judah. Therefore Jacob said, when blessing his son Judah, and looking forward with the prophetic eye to the period when his numerous descendants should inhabit that part of Canaan which afterward received his name, (Gen. xlix. 11,) "Binding his foal unto the vine, and his ass's colt unto the choice vine; he washed his garments in wine, and his clothes in the blood of grapes." Palestine has long been under the dominion of Mahommedan rulers, whose faith forbids the use of wine, and therefore cannot now boast of its luxuriant vineyards, which for ages had been the admiration of surrounding nations.

The fruitfulness of the vine is proverbial. While it is the weakest of all trees, it is universally acknowledged to be the most fruitful. Growing spontaneously on Lebanon, the astonishing fruitfulness of the vine on that far-famed mountain is employed as a figure to illustrate the fruitfulness of the graces of the saints. (Hosea, xiv. 6, 7.) "His branches shall spread, and his beauty shall be as the olive-tree, and his smell as Lebanon. They that dwell under his shadow shall return; they shall revive as the corn, and grow as the vine, and the scent thereof shall be as the wine of Lebanon."

COPPER ORE.

COPPER.

נחשת, NEHESHETH. *To observe attentively.*

EZRA, VIII. 27.—" *Twenty basons of gold of a thousand drams, and two vessels of fine copper, precious as gold.*"

COPPER ORE.

THE Hebrew name *nesheth*, signifies a serpent, which they receive from narrowly observing objects. And copper is denominated *nehesheth*, from the resemblance it bears to the colour of serpents.

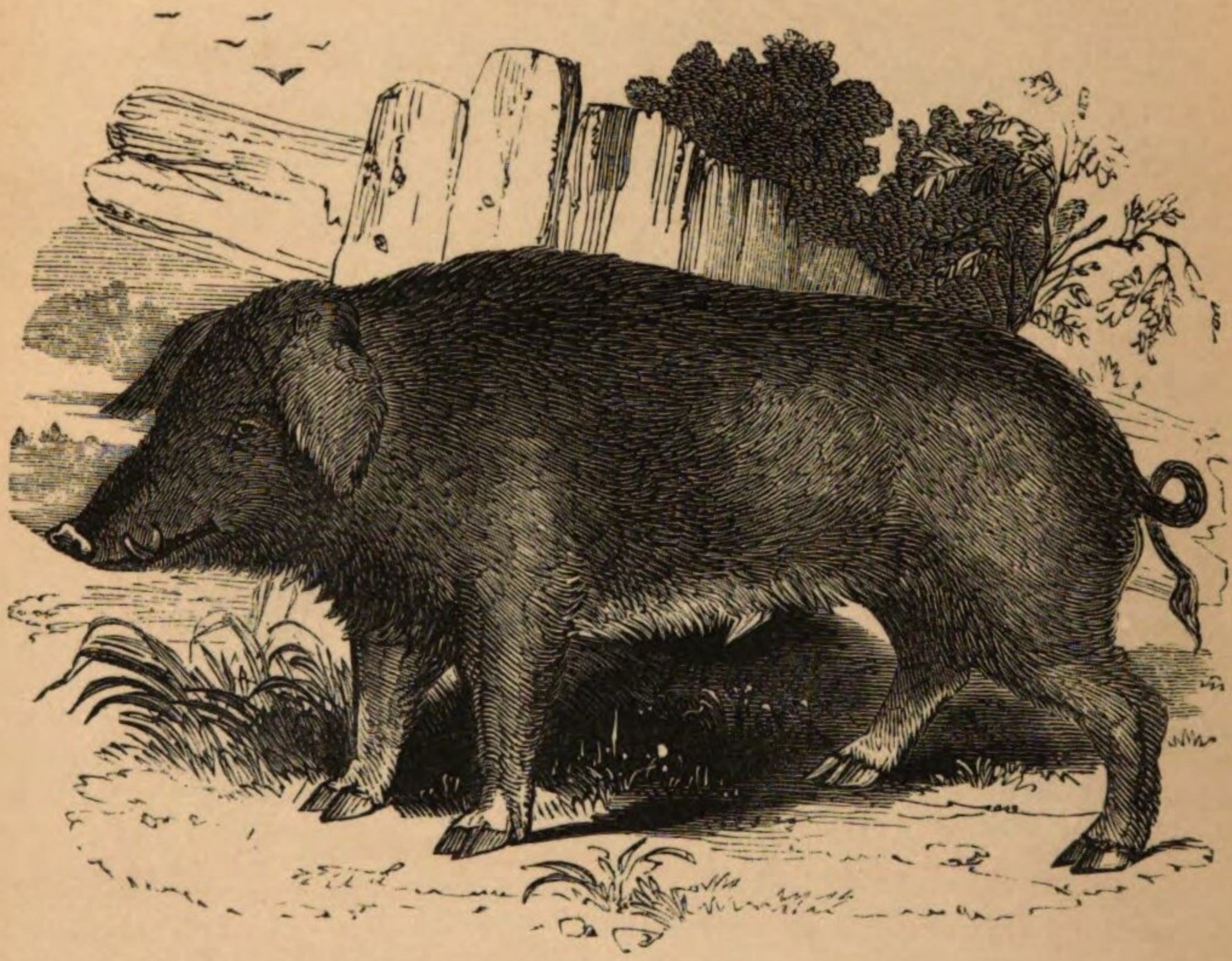
Copper is one of the six primitive metals; and, next to gold and silver, it is the most maleable and ductile. Brass is a compound metal, and composed of copper and *lapis calminaris*. It is comparatively a modern invention, and therefore was unknown to the ancients. That which is translated *brass* in the Old Testament, should have been rendered *copper*. Copper was known and wrought before the flood. Tubal-Cain, the seventh from Adam, was an artificer in copper. (Gen. iv. 22.) From the account given of copper in Scripture, it seems to have been used for all the purposes to which iron is now applied. Sampson was bound with chains of copper. (Judges, xvi. 21.) In Ezra we read of two fine vessels of copper, as precious as gold. Job speaks of bows of copper. (Job, xx. 24.) "Bow of *steel*," should have been rendered, "bow of *copper*." It was

a great article of trade with the ancient Tyrians. (Ezekiel, xxvii. 13.) The merchants of Javan, Tubal, and Mesech brought vessels of copper to the markets of Tyre.

Ores of copper generally employed for yielding the metal, are the sulphurets. These are wrought principally in Cornwall, Anglesea, and Hungary. The process employed in Cornwall for separating the pure copper from the ore is the following:—the ores are broken into small pieces, which are roasted in a furnace. This roasting continues about twelve hours, during which time the ore is frequently stirred, so as to expose the whole of it to the flame. It is then put into a small furnace, and brought to a state of fusion, occasionally mixed with a little lime to increase the fusion. The impurities rise to the top and are carefully raked off. The copper, in a liquid state, is drawn out through a hole in the lower part of the furnace. Fresh quantities of the roasted ore are then put in, and thus the process is carried on for a considerable time.

Copper is found in stones of various colour and shape. Virgin copper is found pure in grains, flakes, or lumps. It is not unfrequently found native and malleable; sometimes in small and slender fibres, and sometimes in globular and little irregular masses. It is more generally found in the state of ore, and sometimes blended with the strata of stones, where it shows itself in blue or green efflorescences.

THE WILD BOAR.



THE BOAR.

BOAR.

חזיר, CHAZIR. *To wallow.*

PSALM LXXX. 13.—"*The boar out of the wood doth waste it, and the wild beast of the field doth devour it.*"

SUS, or *hog*, is a genus of quadrupeds of the order *belluæ*. The front teeth in the upper jaw are four in number, converging; in the lower jaw they amount to six, projecting. In the upper jaw the teeth are canine, in number, two, and rather short. Those of the lower jaw are of the same number, and long. The snout is truncated, prominent, moveable; and the feet cloven. This genus is of a doubtful character, partly resembling the *pecora*, or cattle, and partly the *feræ*, or wild beasts. The former it resembles by its cloven hoofs, and the latter, in some degree, by its teeth; and yet differing very widely from both. It is striking, that the internal formation of the feet approaches nearly to that of the digitated quadrupeds, while other parts are peculiar to this genus alone. This genus forms a very singular and important link between three great families of the animal kingdom, namely, the whole-hoofed, the cloven-footed, and the digitated quadrupeds.

THE WILD BOAR.

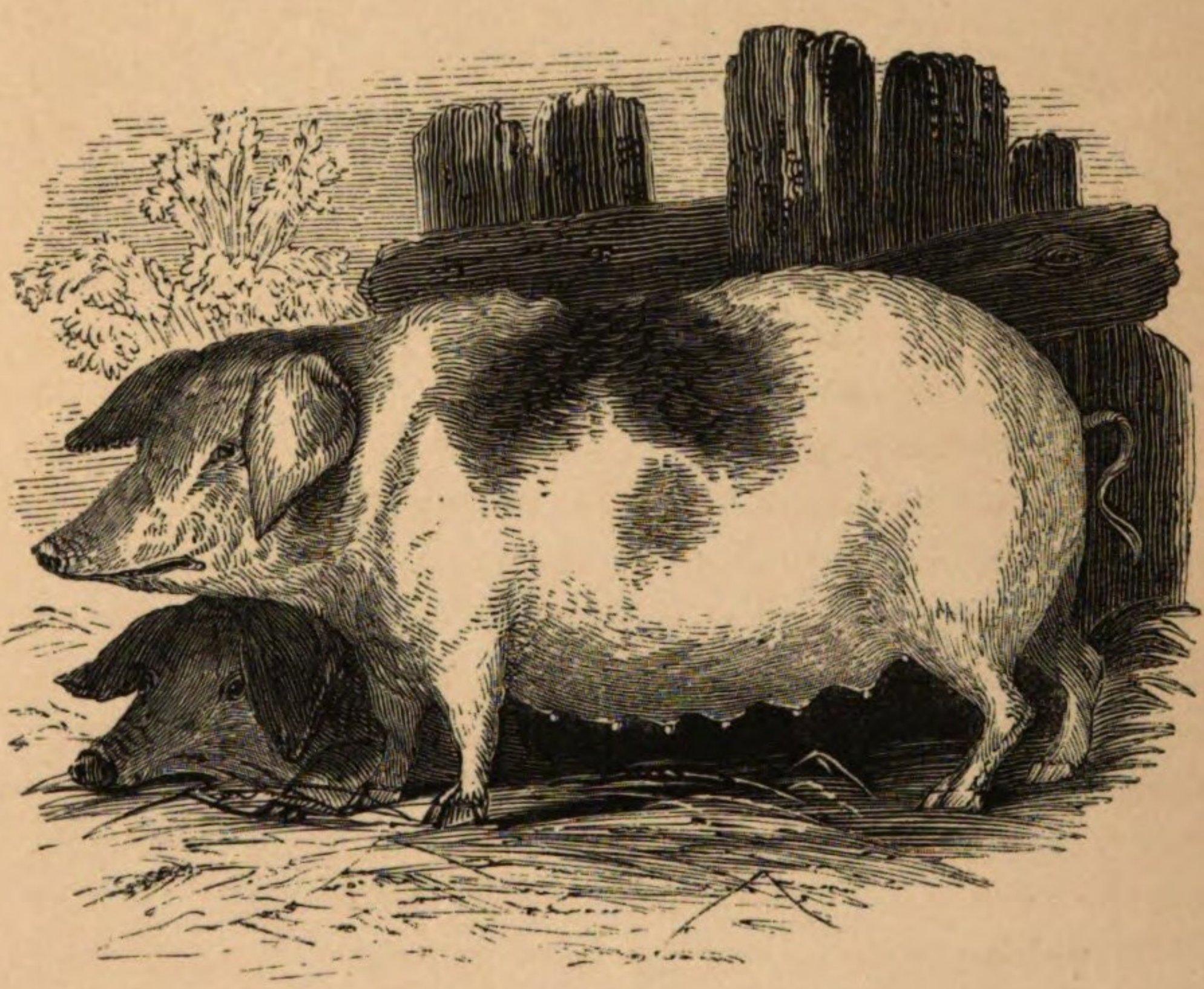
THE wild boar is an inhabitant of the woods. It lives on a variety of vegetables, such as roots, mast, and

acorns. Occasionally it will devour animal food. It is considerably inferior in size to the domestic hog. This evidently arises from the means of its subsistence being more precarious, less abundant, and less nutritious than the means of support brought within the reach of the domesticated species. The colour is a dark brindled grey, and sometimes blackish. Between the bristles, next the skin, is a finer, or softer hair, of a kind of woolly or curling nature. The snout is somewhat longer than that of the domestic animal. The principal difference lies in the superior length and size of the tusks, which are often several inches long, and capable of inflicting the most severe and fatal wounds.

The hunting of the wild boar is at present one of the amusements of the great in Germany, Poland, and France. It is a chace not only of difficulty but danger; not on account of the swiftness, but the ferocity of the animal.

The wild boar was formerly a native of the British isle. William the Conqueror punished with the loss of their eyes those who killed the wild boar. There is reason to believe that Epping Forest, in remote ages, was the retreat of wild boars, as well as stags and fallow-deer.

In the eightieth Psalm we read of a wild boar from the forest which wasted the church, exhibited under the figure of a vine. This boar was the Philistines and Syrians, and the Chaldeans and Romans, who with great cruelty destroyed the Jews.



SWINE.

SWINE.

Ys, US. *To push forward.*

MATT. VII. 6.—"*Give not that which is holy unto the dogs, neither cast ye your pearls before swine, lest they trample them under their feet, and turn again and rend you.*"

As the common, or domestic hog, is so well known, a minute description is unnecessary. It differs from the wild boar in size, being much larger; while its tusks are smaller, and its ears of a more enlarged form, pointed and pendant. There is no quadruped equal to the hog in impurity of manners. It is ravenous, feeds on carrion, husks, will pick out sustenance from the foulest collections of impurity, will push its snout into the midst of the most offensive filth, with as much apparent delight as a human being enjoys the refreshing fragrance of a full-blown rose. Often, too, this species will fall upon and devour their own young. They are so formed as to look towards the ground; they dig in the earth, and their chief delight is to wallow in the mire. How often they are seen during the heat of summer, coming out of the mire completely covered with offensive pollution, and furnishing a very striking emblem of the sinner wallowing in mire of carnal pollution, and universally covered with the moral deformity of sin. The apostle saith, (2 Peter,

ii. 22,) "But it is happened unto them according to the true proverb, The dog is turned to his own vomit again, and the sow that was washed to her wallowing in the mire." Sensualist, look at thine own picture! Look, and blush! look, and repent! look, and flee to the fountain offered for sin and uncleanness, JESUS, the Saviour of men!

In all nations this animal has been considered an emblem of impurity. By the law of Moses, the Jews were prohibited from eating its flesh. The Jewish nation still acknowledge the binding power of this law. Mahomet, in his Koran, enforces the same precept. Time immemorial, the Scythians, Arabs, and Egyptians had a deep-rooted aversion to swine's flesh.

In most parts of Europe, it constitutes the food of mankind to a considerable extent. When it is properly fed its flesh is wholesome and nutritious. But in hot climates and eastern nations the flesh is most unwholesome, and generates leprosy and the most loathsome disease.

This animal is remarkably prolific, and has been known to produce twenty at a birth.

There is a variety whose hoofs are not divided, but entire, like those of a horse It is found in Upsal in Sweden; and Aristotle says they were common in Illyria and Pæonia.

THE SYRIAN WOLF.

SYRIAN WOLF.

זְאֵב, ZEEB. *Cruel.*

GEN. XLIX. 27.—"*Benjamin shall ravin as a wolf; in the morning he shall devour the prey, and at night he shall divide the spoil.*"

THERE are numerous allusions made in Scripture to the wolf, both in its habits and characteristics. In ancient times it was well known in Palestine, and though it is not now of as common occurrence, it is still to be found in many parts of Syria and Palestine. Its usual colour is a pale grey with a cast of yellow. Some in Germany are yellow, many in Russia are white, in Canada they are black; and at the Cape of Good Hope they are grey striped with black.

Though there are many points in which the wolf resembles the dog, it is larger and more robust. Its eyes are in an oblique position, the eye-balls are green, and its coat much coarser. The internal structure is exactly alike, and from the two species a fertile race has in many cases descended.

A wolf is so strong, that it can bear away a sheep in its mouth, and so swiftly, that even the shepherd cannot overtake the greedy and ferocious canine robber. It is very wary, has a quick ear, a penetrating eye, and a scent so exquisite, as to perceive carnage at the distance of a league, and can trace living animals to

a remarkable distance. When very hungry, they will attack children, women, and even men. If they once taste human flesh, they will give a preference to it before every other; and they will attack the shepherd rather than the flock. It is well known how wolves will hover in the rear of armies, to glut themselves with the blood of the slain. The wolf sleeps more commonly during the day than in the night. The female has only young once in the year, and in number from three to nine. She requires about twelve months to train up her young in her own bloody and ferocious habits. She discovers great patience and ingenuity in giving them her maternal instruction. Though at other times timid, yet, when her young family is attacked, she defends them with the most astonishing heroism. Let human parents take an example, and learn boldly to defend their offspring from the attacks of moral adversaries, which are the enemies and destroyers of the rising race!

Buffon says, "There is nothing worth belonging to this animal except the skin. His flesh is nauseous to every other animal, and the wolf alone willingly eats the wolf."

St. Paul, in his unconverted state, was a bloodthirsty Benjamitish wolf, but by grace was gentle as the lamb.

FLAX.

FLAX.

פשתה, PISHTAH. *To strip.*

PROV. XXXI. 13.—"*She seeketh wool and flax, and worketh skilfully with her hands.*"

As the substance which we call flax is the bark or fibrous part of the vegetable, which is peeled or stripped off the stalks, we see at once why the Hebrew name *pishtah* is given to it, which signifies to strip.

LINUM, or *flax*, is a genus of the *pentagynia* order, belonging to the *pentandria* class of plants. There are twenty-two species; but the most remarkable are the two following.

First, the *usitalissimum*, or common annual flax. Its root is taper and fibrous. The stalks are upright, slender, and unbranched, about two feet and a half high. They are elegantly enriched with narrow, spear-shaped, alternate grey coloured leaves. The stalks are divided into two at the top, and terminated by small, blue, crenated, or notched flowers, which make their appearance in June and July. These are followed by large round capsules of ten separate cells, each containing one seed.

The second species most worthy of attention, is the *perennæ*, or perennial Siberian flax. It sends up annually several upright, strong stalks, branching four or five feet high. The leaves are of a dark green co-

lour. The stalks are terminated by large clusters of flowers, which appear in July.

There are few productions in the vegetable kingdom which can equal the flax in usefulness. The advantages which, under Providence, it confers on human beings, are sufficient to fill volumes, and could not fail to be read with intense interest. From its bark is manufactured the lint, or flax, for making every description of linen cloth. Some kinds discover a fineness of texture, the loveliest to the eye, and the most exquisitely soft, smooth, silky, and delicate to the touch. It affords raiment for us while we live, and when the immortal spirit takes its flight to the eternal world, it furnishes clothing to our mortal and lifeless remains. When our adorable Redeemer expired on Calvary, Joseph of Arimathea "took the body, and wound it in linen clothes with the spices, as the manner of the Jews is to bury." (John, xix. 40.)

From the rags of the linen is formed paper, a commodity which confers upon man a degree of benefit and happiness which no calculation can reach. Look to the epistolary correspondence existing in civilized communities, and look to the myriads of useful books, on the perusal of which man's present and future happiness depends; and then see how much, under God, we owe to this wonderful vegetable production!

BUNCHES OF GRAPES

BUNCHES OF GRAPES.

עֵנָב, HANAB. *Connected together.*

NUMB. XIII. 23.—"*And they came unto the brook of Eschol, and cut down from thence a branch with one cluster of grapes, and they bare it between two, upon a staff; and they brought of the pomegranates and of the figs.*"

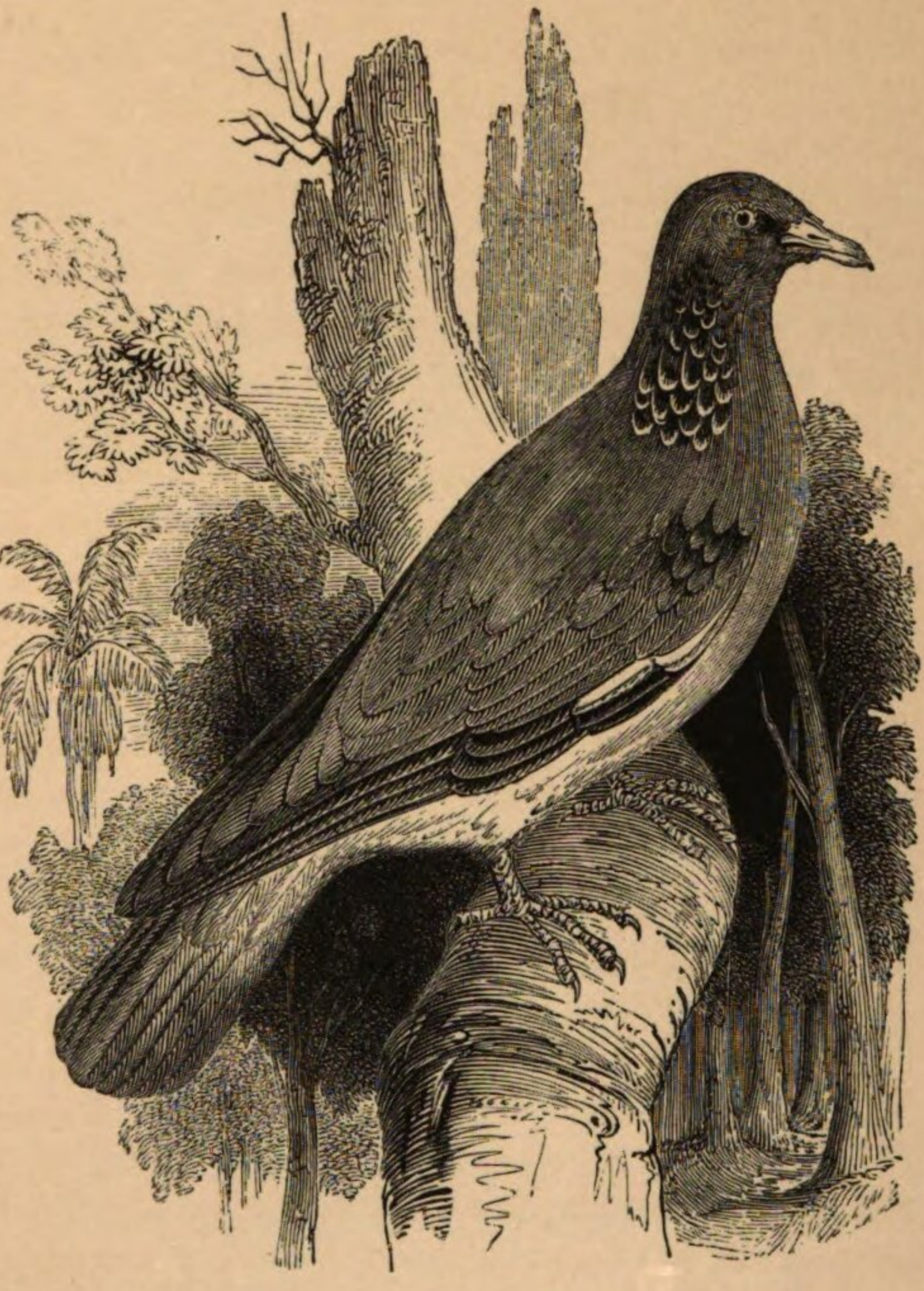
FROM the great number of distinct grapes united together in one bunch, the name *hanab* is given to the grape, derived from a word which signifies *conjoined*.

It is the opinion of some, that the brook Eschol flowed through the valley of Sorek, which place, of all others in the Holy Land, produces grapes, the clusters of which are the largest and the most valuable. This valley, until a remote period, was well cultivated, partly as arable land, and partly as vineyards, besides containing plantations of the fig-tree and the olive. In the year 1633, Eugene Roger staes, that he found in this valley a cluster of white grapes, weighing twenty-four French pounds. He adds, it was quite common to find them from six to twelve French pounds. The wine produced from these grapes, is that which visitors receive from the hospitable inmates of the convent of St. John, and which wine is considered the best which the Holy Land can furnish. Morrison, the traveller, says, "It is a white

wine, and was so delicate and so delicious, that in tasting it, my conscience secretly reproached me for so badly imitating the great baptist, who, in this very place, now called the Valley of St. John, abstained from all wine and strong drink."

There are vines in Palestine which produce grapes of a much larger size than any we are accustomed to see in this country. Often, however, the quality degenerates with the great size of the grape. From the cut given by Laborde, the grapes seem very large. Nan informs us, that he saw in the vicinity of Hebron grapes as large as a man's thumb. Daudine, an Italian traveller of some celebrity, states, that he saw on Mount Lebanon grapes which grew to the size of prunes. Others say, that they have seen in the mountains of Israel bunches half an ell in length. In Syria a cluster of grapes weighs from ten to twelve pounds. It is said that in the Archipelago, clusters of thirty or forty pounds' weight are not uncommon.

How astonishingly honoured has been, and still is, the juice of the grape! In Old Testament days it was employed as drink offerings poured out before God. In New Testament days it is used in the Eucharist, or Lord's Supper, as an emblem of the blood of Jesus, which was shed for the salvation of men: "This cup is the New Testament in my blood." (1 Cor. xi. 25.)



THE RING-DOVE.

RING-DOVE.

יוֹנָה, JONA. *A dove; defenceless.*

GEN. VIII. 8.—"*Also he sent forth a dove from him, to see if the waters were abated from the face of the ground.*"

So the dove is called in Scripture the *defenceless one.* This most beautiful and universally admired specimen of the winged tribe is particularly an object desired by the birds of prey, and particularly unable to defend itself from the furious attack of those hawks, owls, and eagles which hunt for its life. The poets describe doves as defenceless and the objects of rapine.

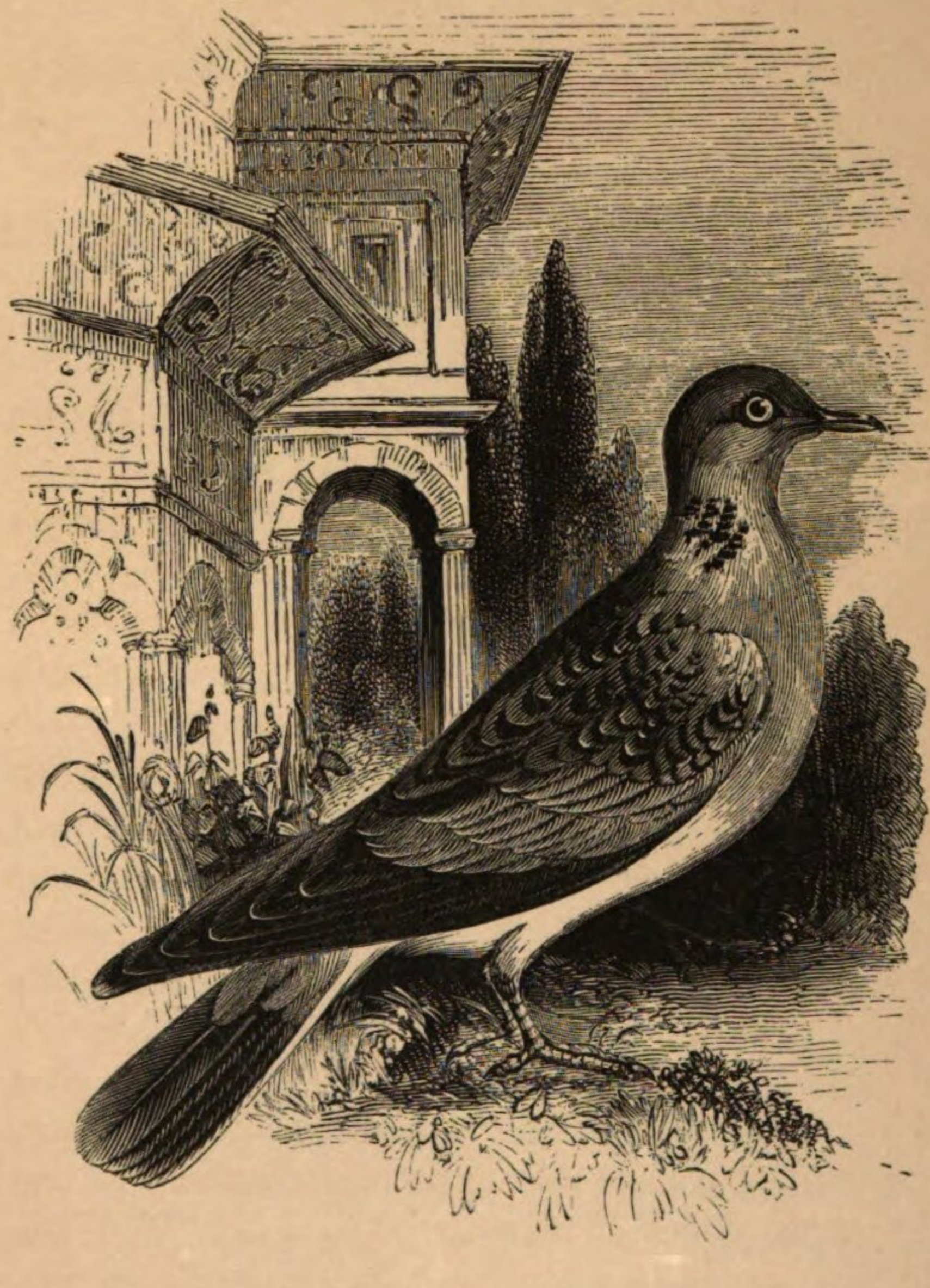
"Thus at the panting dove a falcon flies,
The swiftest racer of the liquid skies,
Just when he holds, or thinks he holds his prey,
Obliquely wheeling through th' aërial way,
With open beak, and shrilling cries he springs,
And aims his claws, and shoots upon his wings."
Pope's Translation of Homer.

The ring-dove, which is also known as the cushat and wood pigeon, is found almost in every country in Europe, and in Syria and Palestine. Though it is most partial to the warmer climates, still in summer it is found in Sweden, Russia, and even Siberia. There is no doubt that it is a native of Britain, but here, as in France, it is in some degree a bird of passage, shift-

ing from the northern to the southern parts of the island.

Its prevailing colour is grey, the tips of the tail dark, and the neck white on each side. This species is large, measuring in length seventeen inches and a half, and twenty-nine inches in extent of wing.

Though very shy, some pairs have fixed their nests in the lofty trees of the gardens of the Tuilleries and Luxembourg at Paris. They show the same sense of security as domestic pigeons, and as undismayed by the crowds of human beings which are constantly passing under their eye. There they rear their young without discovering any marks of uneasiness or fear. When, however, they repair to the neighbouring fields for food, they show all the timidity which is so characteristic of the species. Their food chiefly consists of acorns, beech-mast, and various berries and grains. If these cannot be obtained, under the influence of the cravings of hunger, they will crop the tender shoots of clover, green corn, or turnips. They light in numerous bands upon ripe crops that have fallen down under the weight of heavy showers. They greedily devour the creeping roots of couch-grass and the mountain strawberry. They only breed twice a year. Their note is louder and more plaintive than that of the common pigeon. Hence we meet with the poetical language of the afflicted king: (Isaiah, xxxviii. 14 :) "I did mourn as a dove ; mine eyes fail with looking upward."



THE DOMESTIC DOVE.

DOMESTIC DOVE.

PSALM LXVIII. 13.—"*Though ye have lain among the pots, yet shall ye be as the wings of the dove, covered with silver, and her feathers with yellow gold.*"

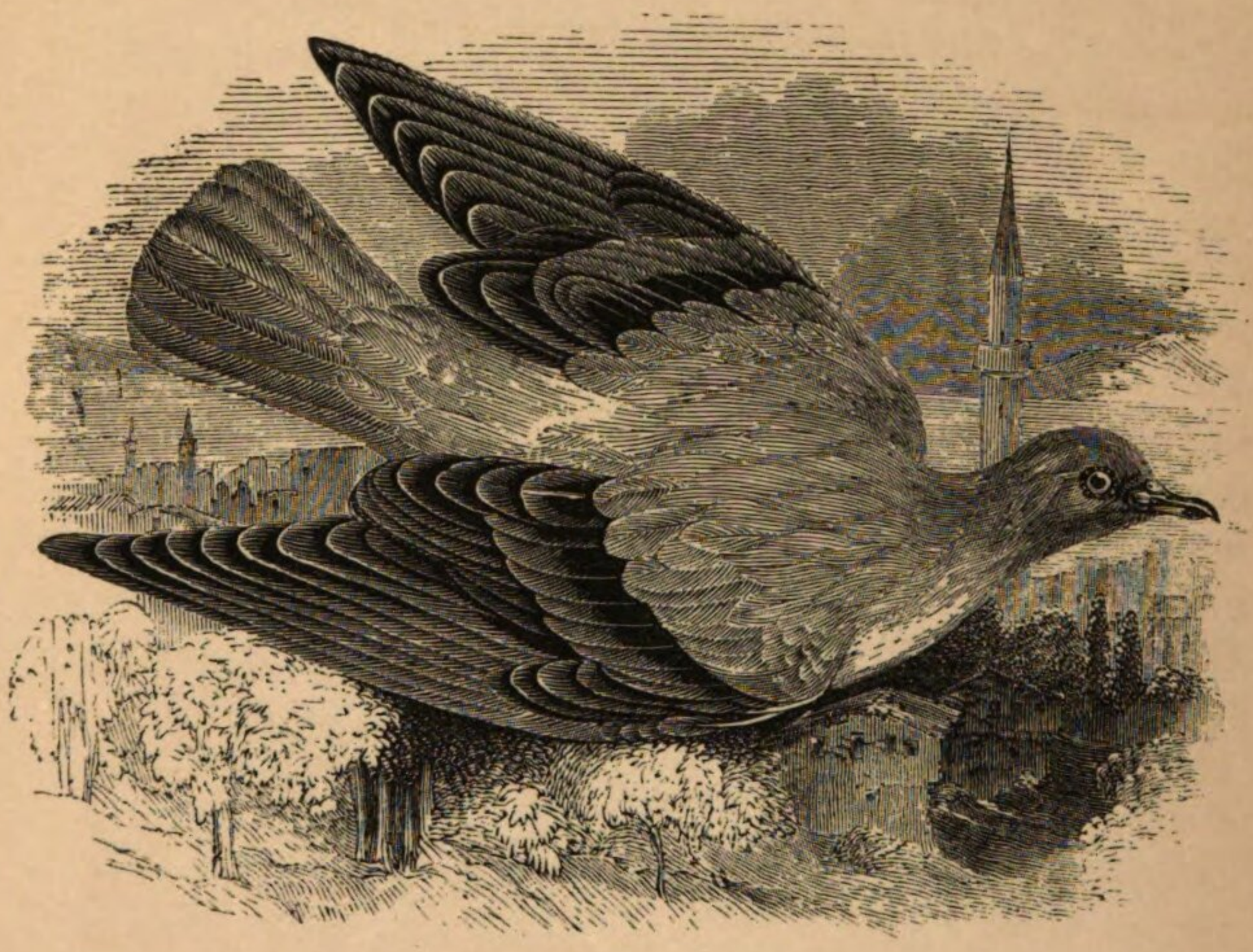
COLUMBA-LIVIA, or the domestic dove, is well known in Palestine. Its colour is grey-bluish, with a double black band on the wings; the lower part of the back is white; the breast pale, and the tip of the tail dusky. These characters belong to a great many of this well-known species; but like other domesticated animals it shows almost an endless variety of markings.

In the numerous places of Scripture where doves are mentioned, there can be little, if any doubt, that the inspired writers had chiefly the domesticated dove in view. It was most likely this description of dove Noah sent out of the ark to ascertain whether the waters of the flood had begun to assuage, and the dry land had begun to appear. When the dove was first sent out on this interesting expedition of discovery, she winged her course to a vast extent over the waters of the great deep. But she found no dry land, no mountain top, no top of a lofty cedar rearing its summit above the surface of the waters; she therefore returned to the ark in the evening, having found no rest for the sole of her foot. A second time she was sent out by Noah. She came to him with an olive-branch

in her mouth. A third time she was dispatched, but she returned no more, as the waters had greatly assuaged, and the dry land furnished her a more inviting residence than the confined limits of the ark.

Doves of this species when unreclaimed have only two broods in the year, and lay their eggs in nests rudely formed in the holes of rocks and ruined towers. Domesticated, and allowed the rich supplies of the farmyard, they are surprisingly prolific, and produce a succession of broods from three to twelve times in the year. The usual number of eggs laid and hatched are two, one of which is commonly a male, and the other a female bird. The bird sits upon her eggs during the period of incubation, from fourteen to seventeen days. Domestic doves are kept almost in every part of the civilized world, as the young are reckoned a description of food remarkably delicate and palatable.

The varieties of the domestic pigeon are numerous. The most remarkable are the following:—the *crested* pigeon, with hairy feathers on the feet, and a crest on the head, giving it an air of royal dignity; the *shaker*, with an erect, open tail of many feathers; the *tumbler*, that turns over in its flight; and the *pouter*, with the breast inflated.



THE CARRIER-DOVE.

CARRIER DOVE.

ISAIAH, LX. 8.—"*Who are these that fly as a cloud, and as the doves to their windows?*"

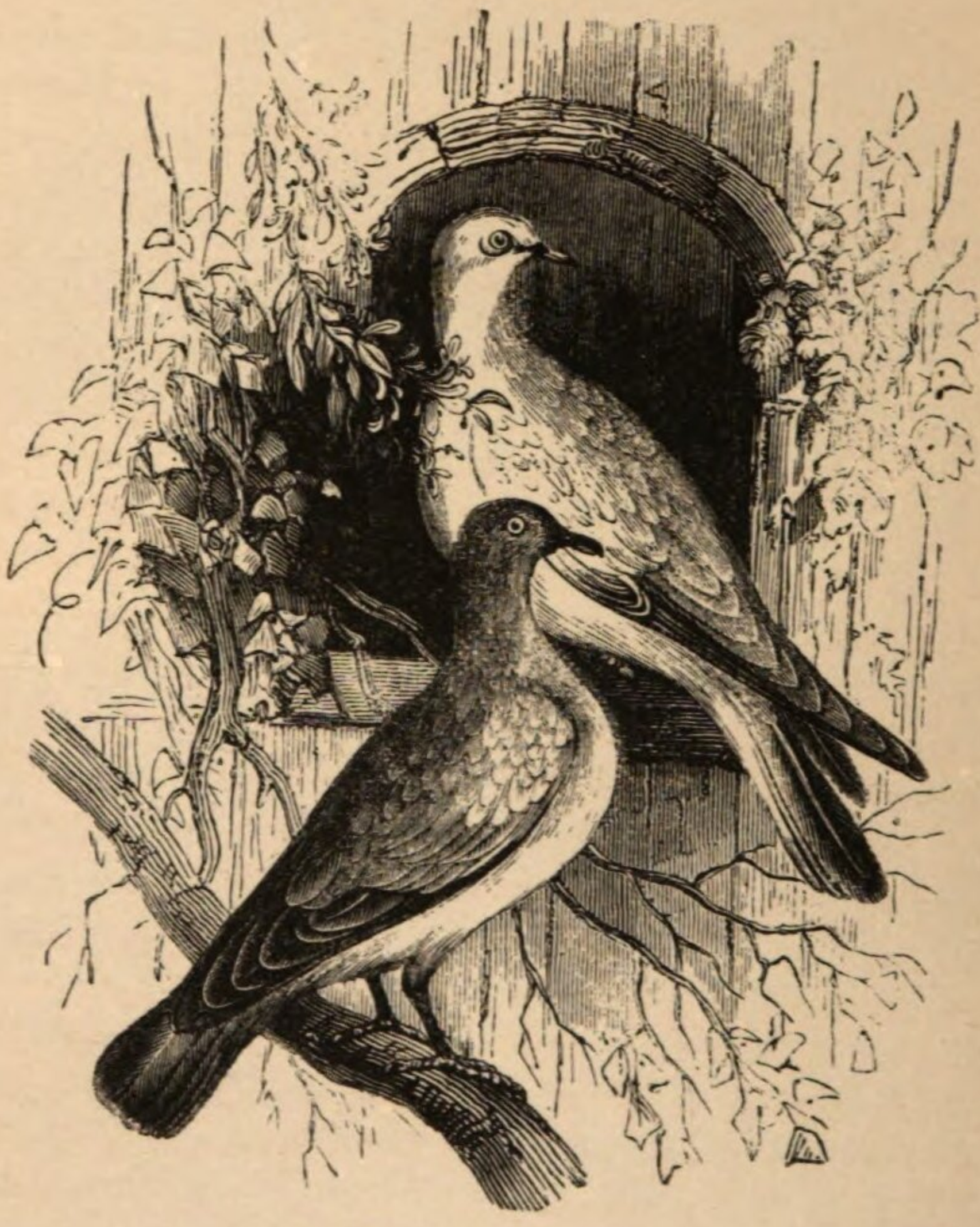
THIS description of dove, the *carrier*, was known and employed in very ancient times throughout the East for conveying intelligence. Bochart furnishes so many ancient and great authorities, that there can remain no doubt upon the subject. Hirtius and Brutus, at the siege of Modena, held a correspondence with one another by means of pigeons. Ovid and Ælian inform us, that Taurosthenes, by a pigeon stained with purple, gave notice to his father of his victory at the Olympic Games, by sending it to him at Egina.

Linnæus calls this most interesting, far-famed, gifted bird, the name of *columba tabellaria*. The name is derived from a word signifying a letter. This dove is of a larger size than the greater part of pigeons, being fifteen inches in length, and sometimes weighing twenty ounces. The symmetry of its form is most superior and complete. Those which are of a blue, or of a blue-piebald colour are most esteemed by pigeon-fanciers. We know not the country to which the *carrier* originally belonged. It is said to have been imported from Bussorah into Britain, where it is now completely naturalized.

Pliny makes a striking remark on the intelligence

conveyed by pigeons at the siege of Modena. "Of what avail," he says, "were sentinels, circumvallations, or nets obstructing the river, when intelligence could be conveyed by aërial messengers?"

If carrier pigeons are hood-winked, and in this state conveyed from twenty to a hundred miles, they will find their way back to the place of their nativity. They are regularly trained to this service in Turkey and Persia. They are carried first, while young, short flights of half a mile, afterwards the distance is gradually increased, till at length they will return from the farthest part of the kingdom, and even from foreign lands across the sea. It was customary, and it is probably the case now, that every Bashaw had a basket of these pigeons bred in the seraglio, which were used in cases of pressing emergency which require urgency and expedition. It is said, that while an army was besieging Tyre in the Crusades, intelligence from a distant quarter was suspected, from a pigeon being frequently observed hovering above the city. The besiegers obtained possession of the bird, removed the billet, containing useful inteligence to those who were within the city; this billet was replaced by another containing deceitful intelligence; the bird was liberated, and by the false information the besiegers got possession of the city.



DOVES.

DOVES.

CHARACTERISTICS IN COMMON.

PSALM LV. 6.—"*Oh that I had wings like a dove! for then I would fly away and be at rest.*"

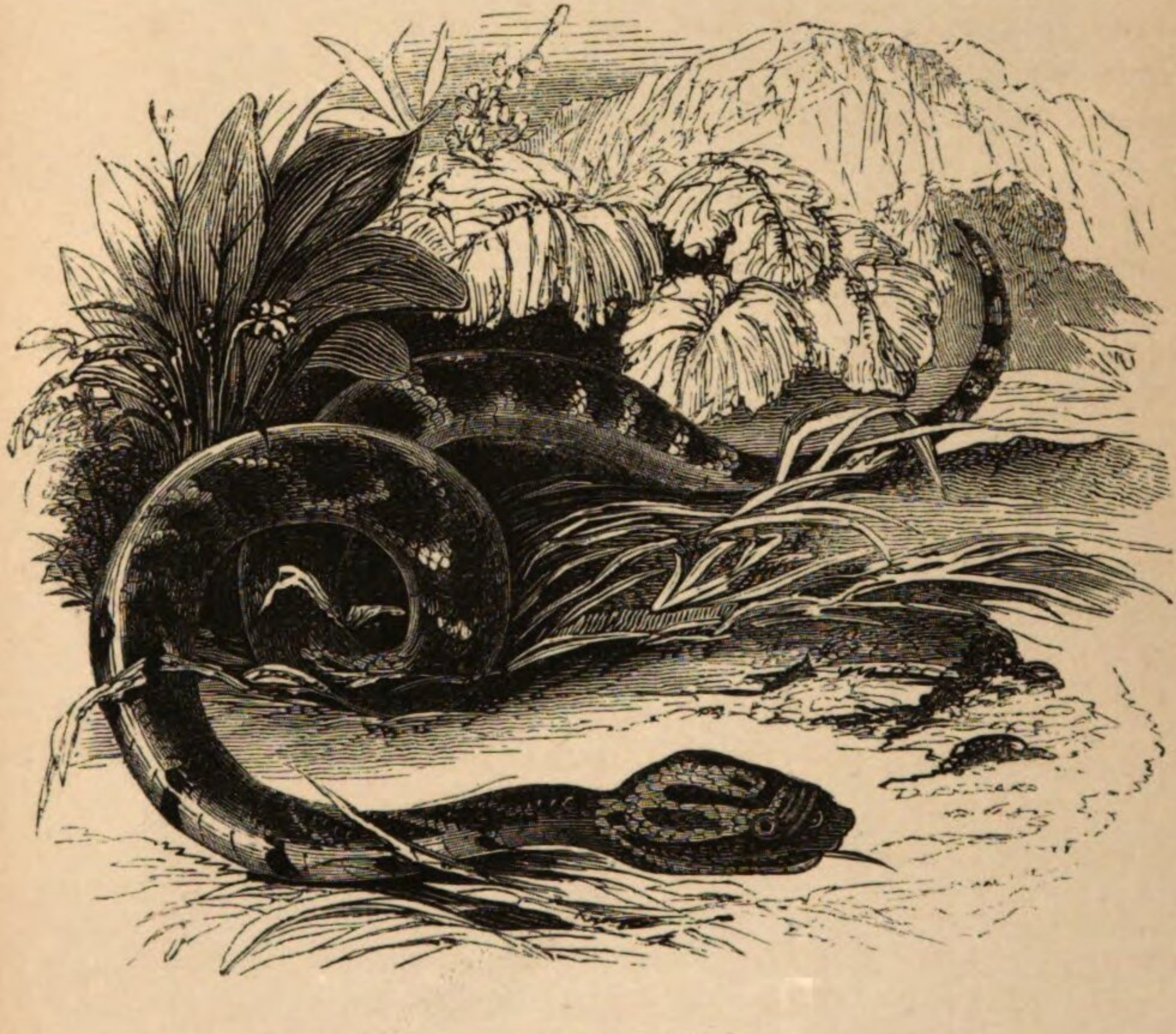
THE dove, or columbine family, is to be found in almost every part of the globe. It is excluded from no portion of the earth by any degree of climate, from the extreme of heat or of cold. It exists under the most sultry heat, and endures the cold of Canada, Siberia, and the inhospitable arctic regions. Thus, wherever man lives, Providence has presented before him the DOVE, as the emblem of peace and love. What a blessed world ours will be when love and peace shall sway their sceptre, and diffuse their heavenly influence among all the tribes and families of men!

It is in the warm climates the species of doves are more multiplied and more varied, for these are most suited to their nature and constitution. Though they lay only two eggs at a time, and are greatly exposed to the depredations of beasts and birds of prey, they multiply to a remarkable extent, and are often seen in immense flocks winging their course through the sky.

They are generally of an elegant form, their feathers are varied and beautiful, and their manners sociable, gentle, and endearing. In their wild condition they are granivorous, swallowing grains and berries entire,

which are softened in the crop. It is a striking fact, that in the most rigid sense, doves are *monogamous*, that is, they pair two and two, and keep the laws of marriage with as complete and chaste exactness and fidelity as the best of human beings. They divide the task of incubation, or hatching the eggs, and sit alternately. Some build their rude and simple nests in lofty trees, others choose the crevices of rocks; some prefer copses or groves, and others build in the immediate neighbourhood of the habitations of men. The nest generally consists of small twigs, is of a flattish form, and sufficiently large to contain both parents, who act the part of guardians and nurses to their tender offspring, over which they watch with the most affectionate and untiring concern. When the young receive their food, they put their entire bill into that of their parent, keeping it half open while the parent conveys into it the contents of its crop, where the food is prepared and softened.

When the young pigeons come out of the shell they are covered with a light down, and do not quit the nest till they are completely fledged and fit for flying. Pigeons drink much, and when drinking plunge their bill into the water. They devour a large quantity of food in the course of a day, and show a great propensity for the carbonate of lime. Their voice is plaintive and mournful



THE ADDER.

ADDER.

שפיפון, SHEPHIPHON. *To crush, or squeeze.*

GENESIS, XLIX. 17.—"*Dan shall be a serpent by the way, an adder in the path, that biteth the horse-heels, so that his rider shall fall backward.*"

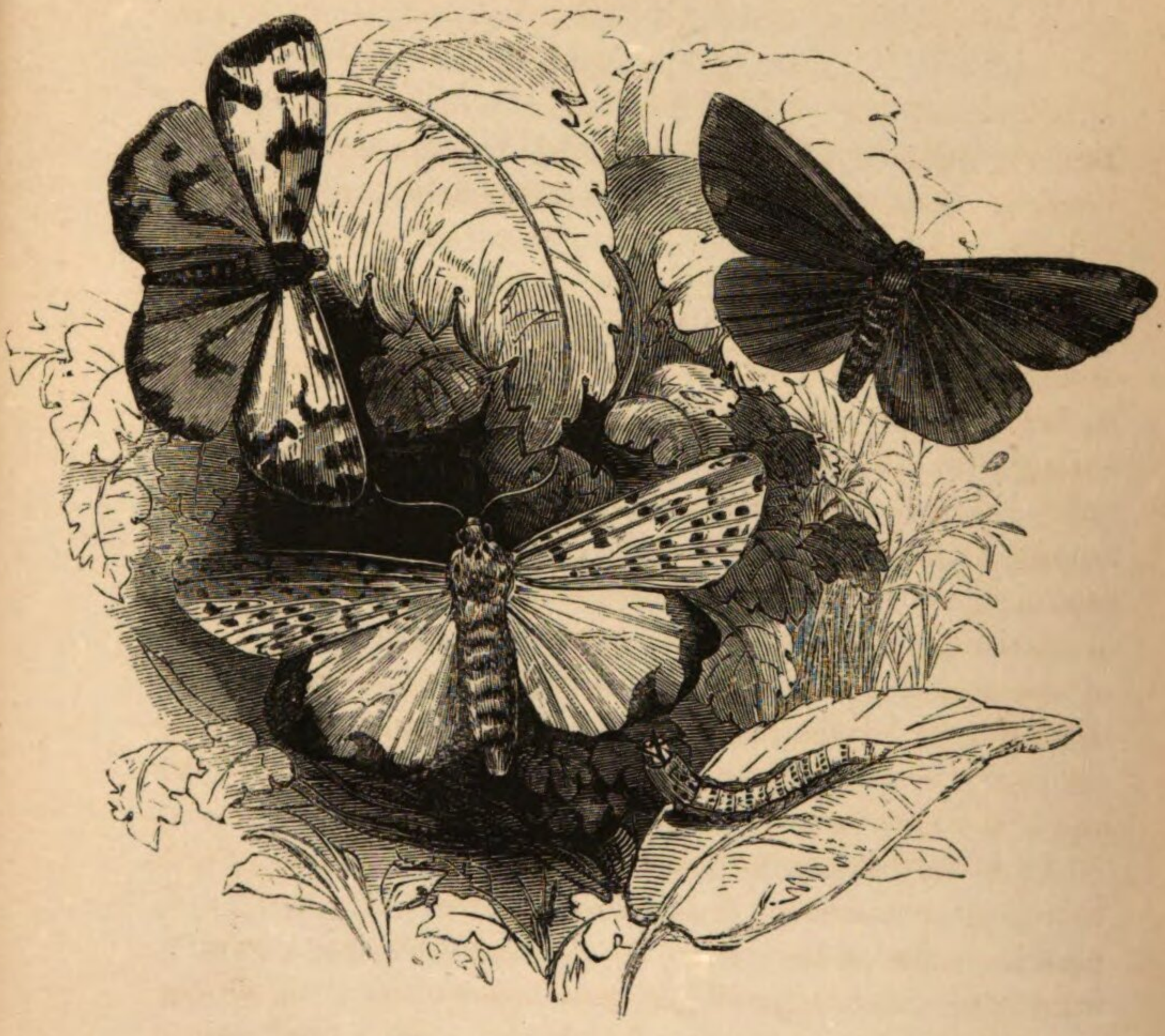
THIS name, *shephiphon*, signifying to crush, or squeeze, is given to the adder in Scripture from the violence with which it bites, and from the wound which it inflicts being generally mortal.

The *adder* is a venemous reptile, brought forth alive, not by eggs, like the cockatrice. It is considerably smaller and shorter than the snake. It has black spots upon its back; and its belly is quite black.

Some think that the *adder* mentioned in the passage quoted above, and named *shephiphon*, or the *biter*, is the CERASTES, a viper of a light brown colour, which lurks in the sand, and in the tracks formed by wheels in the highway. There it watches, like Satan, its opportunity; when unexpectedly it bites the unwary traveller, and the legs of horses and other beasts. To these reptiles the inspired and dying Jacob compared the tribe of Dan. This intimated what was exactly characteristic and true of that tribe in future years. It was by stratagem more than by open bravery they avenged themselves of their enemies, and extended their conquests.

In our English translation, the word *adder* occurs five times. We first see it in the prophetic account given by Jacob of the tribe of Dan. In Psalm lviii. 4, it is introduced to us as the *deaf adder*. The wicked are compared in this passage to the serpent and the deaf adder: "Their poison is like the poison of a serpent; they are like the deaf adder which stoppeth her ear; verse 5; which will not hearken to the voice of charmers, charming never so wisely." This seems to refer to a remarkable practice in eastern countries where serpents are actually tamed. On the species of adder mentioned by the Psalmist, music is said to have a very powerful and remarkable effect; they are said to swell at the sound of music; they will raise themselves up nearly the half of their body; they will turn themselves and move in time to the tune played upon the instrument. They are actually brought out of their holes by music, when the natives lay hold on them with great expertness, and then deprive them of their teeth, by which they sting and inflict such deadly wounds. It is said tame adders have been taught to put the point of their tail into their ear to prevent their hearing the musical sound; hence the *gospel despiser* is compared to the adder, which refuses to hear the melodious notes of the charmer.

See Psalm xci. 13; cxl. 3. Prov. xxiii. 32.



MOTHS.

MOTHS.

w'y, OIS. *A destroyer.*

JOB, IV. 19.—" *Them that dwell in houses of clay, whose foundation is in the dust, which are crushed before the moth.*"

THE PHALÆNA, or *moth*, is a genus of insects of tne order *lepidoptera.* The antennæ are cetaceous, that is, bristly, gradually lessening from base to tip: when sitting the wings are deflex; and its flight is nocturnal. What the owl is among birds, the moth is among insects: it is a night-insect, carrying on its pursuits, and exercising all its activity amid the gloom of darkness. This genus, containing a vast number of species, is divided into assortments, according to the different habits of the animal. So numerous is the variety of moths, that there are actually four hundred and sixty species.

All the creatures of these numerous species are quiet by day, remaining fixed to the stalks or leaves of plants. As soon as night approaches they revive from their daily slumbers, and may be seen flying about in all their sportive liveliness. This disposition is very deeply implanted in their nature. It even shows itself when they are confined in boxes. During the day they are dormant and motionless, without

changing their place in the slightest degree; but as soon as the sun is about setting, they begin to awake, and flutter about and fly as much as the limits of their narrow prison will allow.

The largest and most splendid of all the moths is the *phalæna atlas*. It is an insect magnificent. When its wings are extended, it is in measurement no less than eight inches and a half. It is beautified with a proportionate splendour of ornamental colouring. The ground-colour is of a fine, deep, orange brown. In the middle of each wing there is a large transparent spot, resembling a piece of Muscovy talc: each of these transparent spots is followed by a black border; and across all the wings run lighter and darker bars, exhibiting a very fine assortment of varying shades. The lower wings are edged with a border of black spots on a pale buff-coloured ground. The antennæ have a most elegant appearance. This *kingly moth* is a native of both the Indies, occasionally differing both in size and colour.

There is a very beautiful specimen of moth belonging to the assortment *geometræ*. Towards the middle of summer it is often seen upon the elder. It is called *phalæna sambucaria*. It is of a pale sulphur colour; the wings are angular, and marked by narrow, transverse lines. It proceeds from a green caterpillar, and walks in a very peculiar manner, by raising up the body at each progressive movement into the form of an arch, or loop, the two extremities nearly meeting

BEANS.

each other. In June or July it comes out a beautiful moth from a black chrysalis.

BEANS.

פול, PHUL. *To separate.*

EZEK. IV. 9.—"*Take thee also unto thee wheat, and barley, and lentils, and millet, and fitches, and put them in one vessel.*"

THE *bean* belongs to the same class and order, and natural family with the *pea*. It is an annual plant, rising from two to four feet. The stem is thick and angular; the leaves are divided and without tendrils; the flowers are white, with a black spot in the middle of the wing. The seed-pods are thick, long, woolly within, and enclosing large, ovated, or egg-shaped seeds, which render the plant so valuable, and for which it is cultivated in gardens. It is a native of the East, grows plentifully in Syria and Palestine, and very luxuriantly in Egypt.

We cannot exactly ascertain to what extent beans are cultivated in Palestine. In Egypt it is cultivated so much, that the quantity is only inferior to that of wheat and dourna. In that country they are sown in the month of November, and are reaped in February, thus remaining in the ground only three months

and a half. In Syria they may be reaped throughout the whole of the spring. The stalks are cut down by the scythe, and are afterwards cut and bruised for the food of cattle, camels, and goats. The beans, when sent to market, are very generally deprived of their skins. We learn from Scripture, that at a very early period they were in use among the Jews. It is reported that the Rabbins considered it unlawful for the priests to eat beans, because they were considered the appropriate food of mourning and affliction.

It is singular the uses which the ancients made of beans. They used them in collecting the votes of the people, and for the election of magistrates. They were also used for absolution and condemnation,—a white bean for the first, and a black bean for the second. They had a mysterious use in some of the religious ceremonies of the ancient Romans. The master of the family, after washing, was required by the priests to throw a kind of black bean over his head, at the same time repeating these words: "I redeem myself and family by these beans." Of this ceremony Ovid gives a very lively description in verse. The Pythagoreans required abstinence from beans, as if they were unclean, and as if the partaking of them would be injurious. The Egyptian priests considered it a crime to look at beans, judging the very sight unclean. Many have thought that beans were injurious to tranquillity of mind. This is even mentioned by Cicero, the great Roman orator.

FLIES.

VARIETIES OF FLIES.

זבוב, ZEBUB. *Restless, flowing.*

PSALM CV. 31.—"*He spake, and there came divers sorts of flies.*"

THE fly receives its name *zebub*, signifying *flowing*, from its characteristic *restlessness*, wandering here and there, and having no settled residence like other animals.

From this word is taken the name of one of the heathen deities, whom they designated *Baal-zebub*, that is Baal the *flower*, as flowing himself, and making everything else flow by his great power, such as brooks, streams, and rivers.

Satan also is distinguished by this name *Bel-zebub*, which may be literally translated, god of flies, and is the most contemptible name which can be given him.

Of the MUSCA, or *flies*, there are one hundred and twenty-nine species, chiefly distinguished by the peculiarity of their feelers.

LARGE BLACK FLY.

The scientific name of the large black fly, is MUSCA CHAMELION. It proceeds from an aquatic larva, that is, larva which exists in the water in its embryo

state. The size of the larva is considerable, measuring two inches and a half in length. The shape is flattened and the colour brown. This larva is common in stagnant waters during the summer months. It passes into the chrysalis state without casting its skin, which dries over it, so as to preserve the original appearance of the animal, only in a more contracted state.

MUSCA VERMILEO.

The *musca vermileo* is a middle-sized fly, and in its form somewhat lengthened. Its colour is dull yellow, with beautiful transparent wings. How mysterious the circulation of blood and life through a substance so thin and delicate! and how astonishing, too, the muscular influence and vigour of which it is susceptible! "O Lord, how wondrous are thy works! in wisdom hast thou made them all!" This fly is common in the southern parts of Europe, and is to be found in some districts in France. The method and ingenuity which it employs in obtaining its prey is very remarkable. It forms a little pit, or circular cavity in the dry sand, concealing itself below. Here it patiently waits the arrival of any small insect which may be so unwary, or so unfortunate, as to fall into it. Then it lays hold of its victim, sucks out all its juices, after which it carefully removes the lifeless insect-carcase to a considerable distance from the side

THE MYRTLE

of its little pit, that no other insect may be prevented from meeting a similar fate.

How full of instruction this curious fact! Alas, how many human destroyers are preparing pits of temptation for the perdition of precious and immortal souls!

MYRTLE.

הדס, HADAS. *Probably, sweetness.*

ISAIAH, XLI. 19.—"*I will plant in the wilderness the cedar-tree, the shittah-tree, and the myrtle.*"

THE MYRTUS, or *myrtle*, is a genus of the *monogynia* order. There are thirty-six species.

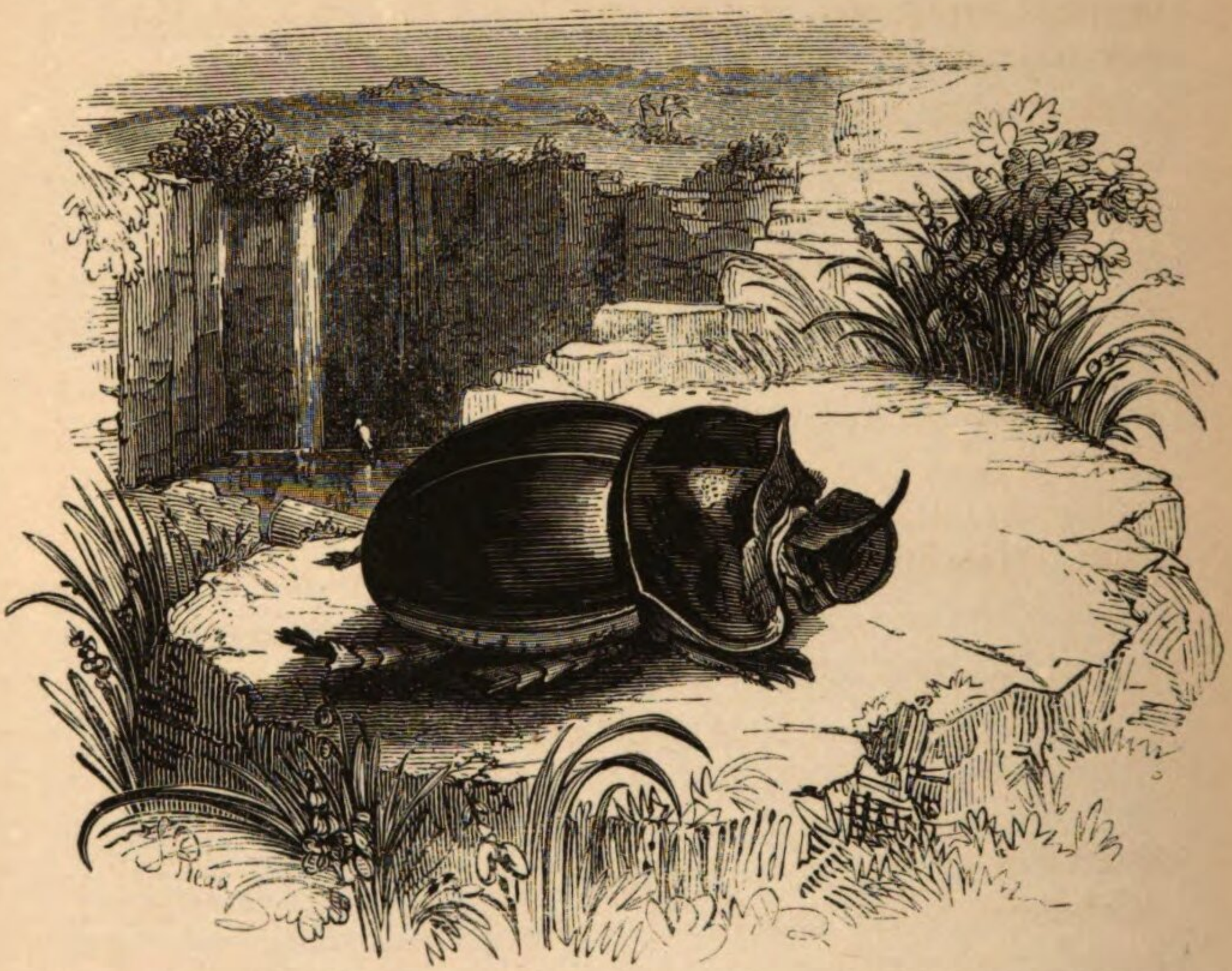
We can only take notice of the *communis*, or common myrtle, of which there are the following interesting varieties. In all of them the root is hard and woody, and sending forth a great number of flexible branches. The leaves bear a great resemblance to those of the box-tree, only they are less in size and much more pointed; they are soft to the touch, shining, smooth, of a most beautiful green, and the smell peculiarly grateful. Figuratively, we sometimes call a smell *sweet;* this is very applicable to the smell of the myrtle, and is likely the reason why this

elegant and favourite shrub receives the Hebrew name *hadas*, signifying sweetness. In the Hebrew, Esther was originally called "*Hadassah*," the feminine of the word "*Hadas*." How appropriate this name to that matchless, humble, pious queen! The Chaldee Targum observes on that passage, (Esther, ii. 7,) "And he brought up *Hadessah*, (that is, Esther,) his uncle's daughter; for she had neither father nor mother, and the maid was fair and beautiful." "They call her HADASSAH, because she was *just*," and those that are just are compared to myrtle.

Of the common myrtle, there is the broad-leaved Roman myrtle. The leaves are an inch and a half long and one broad. This variety is remarkably *floriferous*, that is, exceedingly enriched with a very copious abundance of flowers.

There is the broad-leaved Jew's myrtle. There are three leaves placed at each joint. This species is in universal estimation among the Jews, and is usually employed in their religious ceremonies, particularly the feast of Tabernacles. For this purpose, many gardeners about London cultivate this species with much care.

Savary gives the following account of a sylvan scene he witnessed at the end of the forest of Plantanea. "Myrtles, intermixed with laurel-roses, grow in the valleys to the height of ten feet. Their snow-white flowers, bordered with a purple edging, appear to peculiar advantage under the verdant foliage. Each myrtle is loaded with them, and they emit perfumes



THE BEETLE.

more exquisite than those of the rose itself. They enchant every one, and the soul is filled with the softest sensations."

Saints are compared to *myrtles*, on account of their spiritual beauty, their delightful savour, their perseverance in grace, and their peculiar growth in trouble, when well watered with humility. (Isaiah, lv. 13. Zech. i. 8.)

BEETLES.

חרגל, CHARGOL. *Striking with the foot; multitudes on foot.*

LEVIT. XI. 22.—*Even these of them may ye eat; the locust after his kind, and the bald locust after his kind, and the beetle after his kind.*"

SCARABÆUS, or *beetle*, is a genus of insects of the order *coleoptera*. The word "*coleoptera*" is a Greek compound, and signifies a *sheath* and a *wing*. Insects of this order are those which are provided not only with wings, but sheaths to defend them. Their horns, or antennæ, are *clavate;* the legs are generally toothed, and the body thick and compact.

The larvæ, or grubs, of these insects are each provided with six feet. They bear a considerable resemblance, in their general appearance, to the caterpillars of some of the butterflies, their bodies being composed of rings,

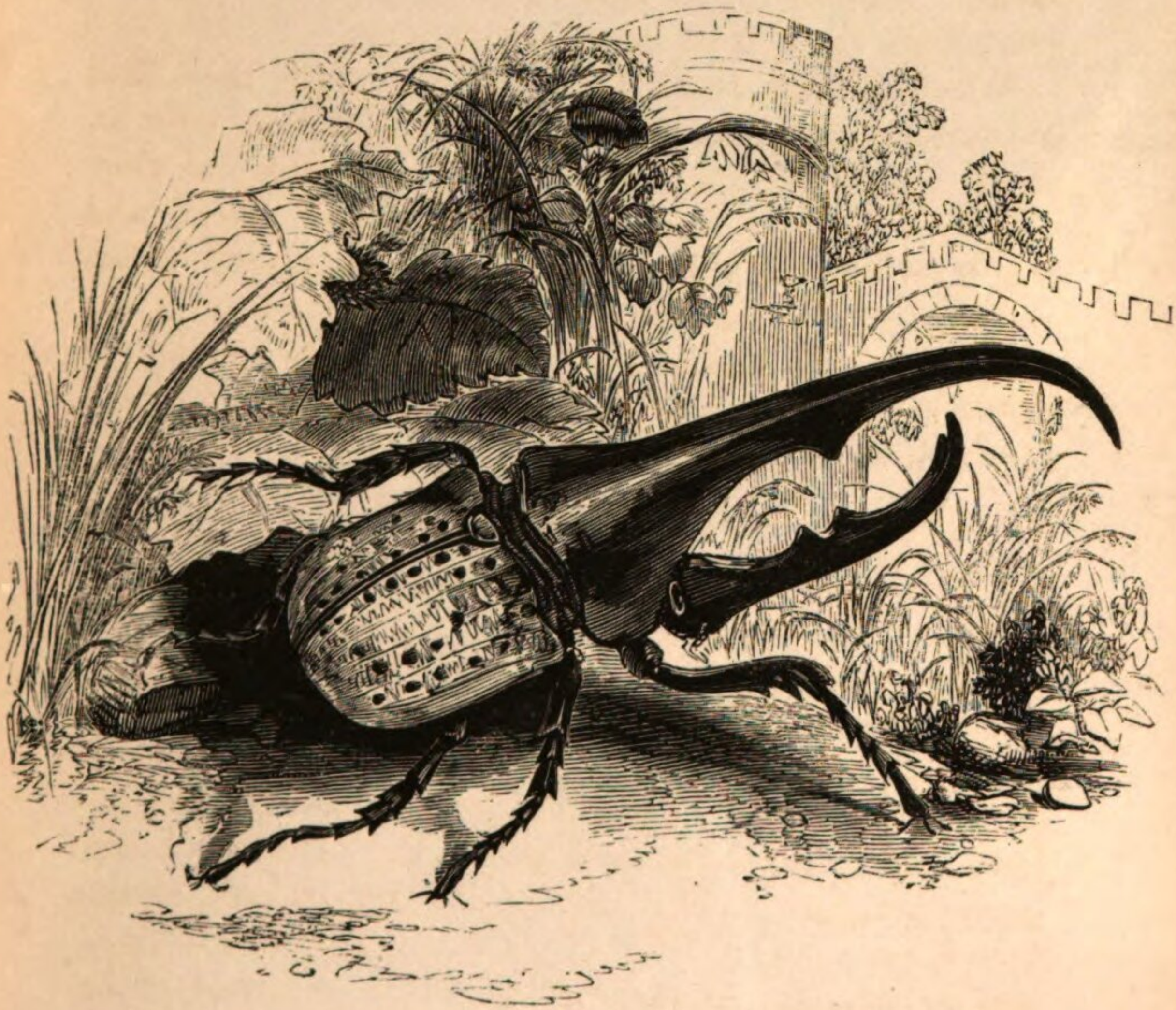
and somewhat hairy. Almost all the species of this insect live underground, and feed on the roots of plants and other substances found under the surface of the earth. The *chrysalis* generally lies dormant in the ground till the perfect insect bursts forth.

When beetles reach their mature state they feed in various situations. Some have a preference for an abode among the dung of animals, and on which they also feed; others live on the leaves of trees; and others on flowers. The first may be considered as an emblem of the loathsome sensualist wallowing in the mire of carnal pleasure; and the last, an emblem of the pure in heart, who feed on the true manna which comes down from heaven.

HERCULES BEETLE.

The *Scarabæus Hercules*, or Hercules beetle, is worthy of its noble name. It sometimes measures not less than five or six inches in length. The wing-sheaths are smooth, of a blueish or brownish grey colour, and sometimes nearly black. The head and limbs are coal black. From the upper part of the breast proceeds a horn of enormous length in proportion to the size of the body. From the front of the head proceeds another strong horn about two-thirds of the length of the former.

This species is a native of South America. There



THE HERCULES BEETLE.

THE BOX-TREE.

great numbers are seen on the tree called *mammæa*. They rasp off the rind of the slender branches, by working nimbly round them with their horns, which are most useful instruments to them in this operation. Thus they cause the juices to flow from the tree, which they drink till they are quite intoxicated, when, like other drunkards, they become unable to manage themselves, and then fall senseless from the tree. This species, from the largeness of its size, affords an admirable example of the characters of the genus.

THE BOX-TREE.

תאשור, TEASHUR. *Perpetual greenness*

ISAIAH, XLI. 19.—"*I will set in the desert the fir-tree, and the pine, and the box-tree together.*"

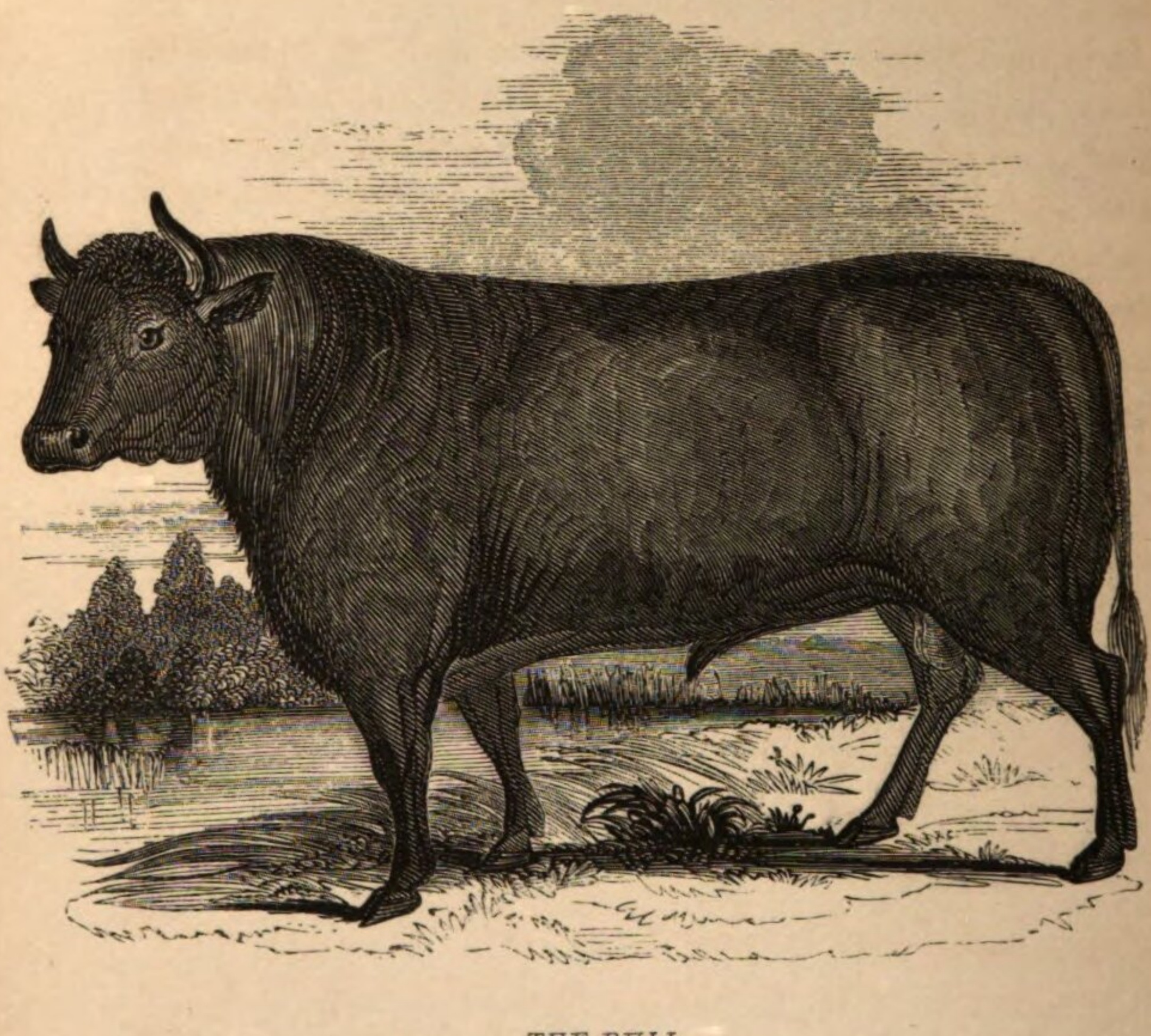
THE BUXUS, or *box-tree*, is a genus of the *tetrandia* order, belonging to the *monœcia* class of plants. The flower has no petals, and is furnished with several stamina, arising from the square bottom of a cup of leaves. The flower is barren, and the fruit is produced in other parts of the plant; when ripe it resembles an inverted vessel, consisting of three divisions, in each of which there is a case containing seed. This shrub is an evergreen, and therefore very properly receives

the Hebrew name *teashur*, which signifies *perpetual verdure.* It is much used for ornamenting gardens, and particularly as a lengthened line of defence along the edges of garden-walks. The wood is a beautiful yellow; and such is its weight or specific gravity, that it will not swim in water. It is so hard that it can scarcely rot, and is able, for a very great length of time, to resist the influence of time.

There are three kinds: the first is the *arborescens* with oval leaves; the second is the *angustifolia*, or narrow-leaved box. They grow in great plenty on Box-hill, in Surrey, in England. The hill has a very singular and verdant appearance from the unusual quantities of this shrub which cover and adorn its surface, and which, at the same time, form myriads of natural groves. They are well rewarded, who, in beautiful summer weather, make an excursion to that hill and witness a display of the luxuriance of the *box*, which can be seen in no other part of the British isle. The third kind is the *suffruticosa*, the dwarf, or Dutch box, and is commonly used for the bordering of flower-beds.

The large box is very valuable for the ornamenting of plantations and pleasure-grounds, being as verdant and beautiful to the eye in winter as in summer. As the dwarf box is subject to no injury from cold or heat, there is no other plant so useful for bordering flower-beds.

Box-wood is invaluable to the turner on account



THE BULL.

of its hardness, and its capability of receiving a beautiful polish. From this valuable substance is formed mathematical instruments, and even instruments of music.

It is said that a young woman of Gunberg, in Lower Silesia, having lost all the hair of her head by some malady, washed her head with a decoction of box-wood, and that soon after her head was covered with an abundant supply of chesnut-coloured hair.

Saints may be compared to box-trees for their spiritual comeliness, true solidity, stedfastness, and the imperishable nature of their grace. (Isaiah, lx. 13.)

BULL.

פר, PAR. *To fructify.*

PSALM XXII. 12.—"*Many bulls have compassed me; strong bulls of Bashan have beset me round.*"

THIS animal is often introduced in Scripture. He is the male of the beeve kind. It is pronounced clean by the Jewish law, and was very often used by them in sacrifice. A most splendid piece of furniture in the temple of Solomon, namely, the brazen laver, or as it was called from its great size, the *brazen sea*, was placed on the back of twelve oxen, or *bulls*, formed of

solid brass. Their heads looked outwards, three of them to the east, three to the west, three to the south, and three to the north. This huge and noble vessel contained six thousand four hundred and twenty-six gallons of water. The brazen bulls which supported this weight were as large as life.

Bos, or ox, of which the bull is the male, is a genus of quadrupeds of the order of *pecora*. The horns are concave and smooth, and the front teeth, only found in the lower jaw, are eight in number. As this species of animals live wholly on vegetable substances, they are not provided with any canine teeth, which are always a mark of the creature's voracious, bloody propensities, and its natural disposition to devour flesh.

The bull is an animal not only noble but formidable in its appearance. The head, neck, and shoulders of a full-grown, well-fed, and correctly proportioned bull, furnish one of the most interesting sights presented by the animal kingdom. I know not of anything in this department of God's works to equal or exceed it, except the front view of the lion, acknowledged to be the king of beasts.

The strength of the ox, or bull, is proverbial. When we look upon him, and see his imposing athletic structure, we require no one to tell us he is an animal of great strength. We have only to look upon him to know it.

The bull differs very widely in size, form, and co our, according to climate and other circumstances.

THE BAY-TREE, OR LAUREL.

The *bison*, or bull, in his wild state, is remarkable for his size, the depth and shagginess of his hair. About his head, neck, and shoulders it is sometimes of such a length, as almost to reach the ground. His horns are short and sharp-pointed, and extremely strong. His eyes are large and fierce; his limbs exceedingly strong, and his whole appearance savage and gloomy.

In Scripture, persons impatient in trouble are compared to a *wild bull* in a net. (Isaiah, li. 20.) Wicked men, but more especially wicked, cruel, and persecuting rulers, are called *bulls*, and *bulls of Bashan*, to denote their power, fierceness, and violence. (Psalm lxviii. 30.)

THE BAY-TREE, OR LAUREL.

אזרח, AESRACH. *To spring up, or shoot forth.*

PSALM XXXVII. 35.—"*I have seen the wicked in great power, and spreading himself like a green bay-tree.*"

THIS is a very striking figurative description of an ungoldly man, raised to the possession of wealth, rank, and power, who lives without God, as if there were no God; as if he were accountable to no being superior to man: indeed, one who lives as if there were no

eternity, no future state, and no judgment-day. This pompous, selfish, human *fool*, lives as if there were no state but the present, and as if he were to live always, and for ever, the undisturbed possesssor of all he has. Foolish, miserable man! What does the unerring Word of God say of such a man? The Psalmist, under the guidance of the Holy Spirit, and from his own observation and experience, gives the following answer: "I have seen the wicked in great power, and spreading himself like a green bay-tree; yet he passed away, and lo, he was not; yea, I sought him, but he could not be found." Innumerable instances of this description are furnished by history, both sacred and profane.

As far as I can ascertain, the *aesrach*, or *bay-tree*, in Scripture, is the laurel.

The LAURUS, or *bay-tree*, is a genus of the *monogynia* order. There are thirty-two species; the most noted are the following:

The NOBILIS, or evergreen bay-tree, is a native of Italy. The trunk is upright, branching on every side from the bottom upward. The leaves are three inches long, two broad, spear-shaped, stiff, and evergreen. The flowers are small, of a yellow colour, and succeeded by red berries in autumn and winter.

The INDICA, or Indian bay-tree, rises with an upright, straight trunk, branching regularly twenty or thirty feet high, adorned with very large evergreen leaves, and long bunches of flowers on red foot-stalks,

THE HART, OR STAG.

succeeded by large blue berries sitting in red cups. This is a peculiarly elegant species, and must have a delightful appearance in those Indian groves where they grow spontaneously in all their native luxuriance.

The CAMPHORA, or *camphor-tree*, is another species of the bay. The root smells stronger of camphor than any other part of the tree, and yields it in greater plenty. The flowers are produced on the top of foot-stalks, which are slender, branched at the top, and each supporting a single flower.

The ancient heathen made a superstitious use of the leaves of the bay-tree, or laurel. Also, the competitors who were successful in their public games, were crowned with garlands formed of laurel-leaves.

THE HART, OR STAG.

אַיָּל, AJAL. *Interposing with defence.*

ISAIAH, XXXV. 6.—"*Then shall the lame man leap as an hart, and the tongue of the dumb sing; for in the wilderness shall waters break out, and streams in the desert.*"

SEVERAL learned naturalists consider the *hart* to be the *red-deer*, or *stag*. There are few quadrupeds which

present so noble an appearance as the stag, or male hart. No person of observation or taste could ever look upon it without admiring its dignity, beauty, and elegant proportions. At the shoulder, the height is about three feet and a half. The males only are provided with horns, which are branched with great elegance, and rounded throughout their whole length. The general colour of the hair is reddish; the upper part of the body is brown, and the lower part white.

Once I saw a red-deer, or hart, led tame, at the head of a Scottish regiment on their march, when I was a mere child. The impression produced on my mind by the appearance of that lovely and noble creature, is as vivid now as if it had been produced yesterday. At another time, I saw a full-grown male hart, or stag, in one of our wild Scottish woods, standing in an open space in all his majesty, with his high-towering branching antlers. The impression to this day is indelible.

The hart, or red-deer, is an inhabitant of many parts of Europe. They prevail in great abundance in some of the highland mountainous forests of Scotland, particularly in those extensive and romantic forests which belong to the Duke of Athol and the Marquiss of Breadalbane.

The senses of smelling and hearing in this animal are very acute. On this provision of the Deity, their defence in a great measure depends, as they have neither inclination nor power to contend with those

THE CLOTHES-MOTH.

blood-thirsty animals which are their natural enemies. If he hears the slightest strange sound he will lift up his ears, and stand for some time, apparently in a listening posture, and if he fears danger he betakes himself to flight.

The stag is very delicate in his choice of pasture. This natural instinct should teach us an important moral lesson, namely, to reject with disgust all that is injurious to the soul, and to hunger and thirst after righteousness.

The stag swims with astonishing ease. One has been known to venture out to sea, in search of its own species, to the distance of several leagues, and to cross from one island to another.

Jeremiah, the prophet, in speaking of the mournful and depressed state of Judah, says, (Lam. i. 6,) "Her princes are like harts which find no pasture; they are fled without strength before their pursuers."

THE CLOTHES-MOTH.

עש, OISIS. *A destroyer.*

JOB, XIII. 28.—"*And he, as a rotten thing, consumeth, as a garment that is moth-eaten.*"

The TINEA ARGENTEA, or clothes-moth, is of a white, shining, silvery colour, and hence the Latin word,

argentea, as forming a descriptive part of its scientific name. It has for its natural clothing fourteen shells, and these scaly. Albin, a naturalist, says, "that this is the insect which eats woollen stuffs, and that it is produced from a grey speckled moth that flies by night, creeps among woollens and there lays her eggs, which, soon after, are hatched into worms; in this state they feed on their habitation till they change into a chrysalis, and thence emerge into moths."

Abbé Planche gives the following interesting account of the moth-worm. "Upon leaving the egg, which had been lodged upon a piece of stuff by a moth commodious to her purpose, it finds a proper place of residence, grows and feeds upon the nap, and likewise builds within it an apartment, which is fixed to the groundwork of the stuff with several cords and a little glue." How ingenious! He goes on in his description and says, "From an aperture in this habitation, the moth-worm demolishes and devours all about him. When he has cleared the place, he draws out all the fastening of the tent; after which, he carries it to some suitable distance, and then fixes it with the slender cords in a new situation. In this manner he continues to live at our expense, till he is satisfied with his food, at which period he is first transformed into the *nympha*, and then changed into the *papiliæ*."

When the caterpillar-moth-worm comes from the egg, it immediately commences preparing a suitable covering for its feeble frame. It spins a coating of

THE THORN.

silk, which is extracted from its own body, to which covering it very ingeniously attaches little pieces of nap, which it cuts with its curiously formed jaws, which resemble a pair of scissors. Unless it is compelled by the most urgent necessity, it never quits its warm, comfortable habitation. When it wishes to feed, it puts out its head at either end of its little mansion as best suits its convenience. As its body enlarges, it adds to the size of its abode, and all the additions partake of the colour of the different substances out of which they are formed. It has not only the art of lengthening, but also of widening its little tenement. It actually makes a slit from end to end, which it fills up, and makes it as complete and secure as it was before the opening was made.

Three weeks after it becomes a chrysalis, it comes forth a moth of silvery grey colour.

THE THORN.

קוץ, KUTZ. *To cut, or wound.*

GEN. III. 18.—"*Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field.*"

IN Scripture, the word thorn is applied to a very considerable number of prickly plants; and there are

eight different Hebrew words used in the Old Testament descriptive of plants of this kind, and which are correctly enough rendered *thorns* by our translators.

Of the RHAMNUS, or *thorn*, there are forty-two species. We can only mention a few.

The CATHARTICUS, or common purging buckthorn, grows naturally in several parts of Britain. It grows to the height of twelve or fourteen feet, with many irregular branches at the extremities. The flowers grow in handsome clusters; they are white, one on each footstalk. The fruit is a round black berry containing four seeds. The juice of the berry has strong purgative qualities. The bark too is medicinal, being emetic. It can even be applied to the purposes of dying. The juice of the unripe berries, mingled with alum, dyes yellow; the ripe ones, green; and the bark dyes yellow.

The LOTUS is famous in the Odyssey of Homer for its enchanting properties, by which those who eat of it forgot their country and relations. It prevails in Barbary. The fruit is greatly prized, tastes something like gingerbread, and is sold in the marketplaces all over the southern districts of these kingdoms. Olavus Celsus had so high an opinion of it, that he has described it as the *dudaim* of the Scriptures. The *dudaim* was the fruit of the mandrake, which was so delightful in its taste and so agreeable in its influence, that it received the name *dudaim*, signifying "*loves*."

The PALIURUS, or thorn of Christ, is a *deciduous shrub*, that is, lasting no more than one year. It is a native of Spain, Portugal, Italy, and Palestine. It grows nearly to the height of fourteen feet, and is armed with sharp thorns, two of which are situated at each joint. One is about half an inch long, straight and upright; the other is scarcely half that length, and bent backward: between them is the bud for next year's shoot. There is every appearance that this shrub furnished the thorny crown which was placed on the head of our blessed Saviour, and which caused the blood-drops copiously to trickle down his sacred cheeks.

"Did e'er such love and sorrow meet,
Or thorns compose so rich a crown?"

This species of thorn is common in the East; and another plant cannot there be found so fit for the cruel purpose of our Saviour's murderers.

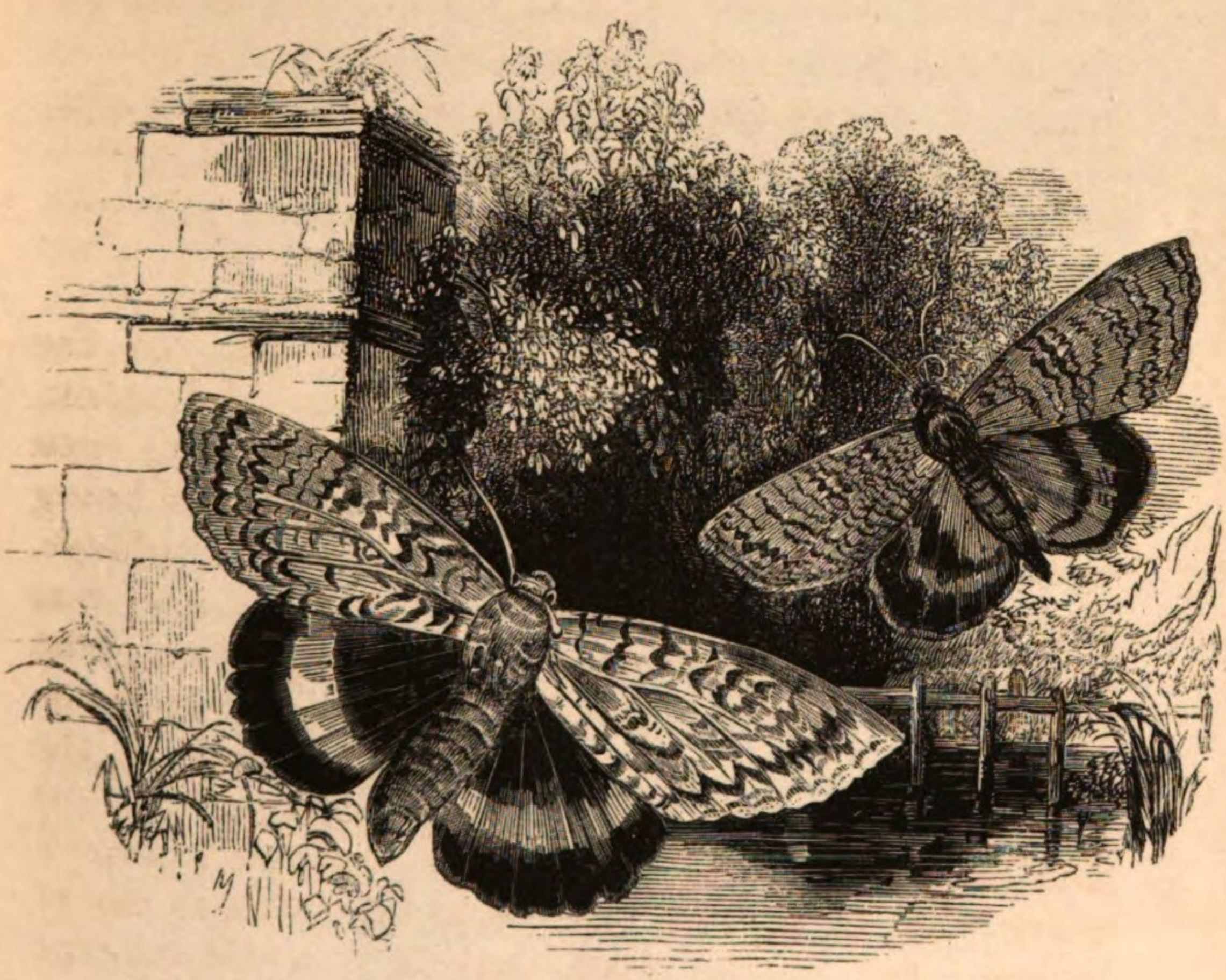
MOTH.

HOSEA, v. 12.—"*Therefore will I be unto Ephraim as a moth, and to the house of Judah as rottenness.*"

BROWN-TAILED MOTH.

THE wings of the brown-tail moth are white. In the years 1780, 1781, 1782, in the vicinity of London, and almost in every hedge, tree, and shrub, were seen immense multitudes of large white webs. On being examined it was found they contained caterpillars. Among the superstitious and weak very great fear was excited, and it was imagined, certainly, that a great and general calamity was not far distant. Some considered that these webs were a forerunner of the plague; while others very gravely considered that the number of caterpillars would, on the one hand, destroy every green thing, and thus cause the cattle to die of hunger; and on the other, that they would corrupt the air, and thus bring upon the people a destroying pestilence. We may form some idea of the quantity when we consider, that in one day in the parish of Clapham, eighty bushels of them were collected for the purpose of being burnt. They chiefly abounded on the hawthorn, the oak, the elm, the blackthorn, the rose-trees, brambles, and fruit-trees.

It is about the beginning of July these moths come



THE BROWN-TAILED MOTH.

from the chrysalis. Then they are found flying about slowly in the evening, and depositing their eggs on the foliage of those favourite trees mentioned before. The caterpillars are hatched early in the autumn. They no sooner quit the egg, than they commence spinning a web; when they have completed a small web, they proceed to feed on the foliage, by eating the upper part of the leaf, and leaving the under part untouched. This work of destruction they prosecute with remarkable order. Every day they proceed in the enlargement of their web, which affords them protection in bad weather and at night. If they are not checked in operations, they succeed in doing very serious injury; but if gardeners are diligent in the use of the pruning-knife, or a sharp hook, or a pair of shears, for separating their nests from the shrubs and plants, they will effectually put a stop to their ravages. No other method will serve the purpose.

When winter arrives they are wholly confined to their silken habitations. In this state they remain torpid, till they are animated by the genial warmth of spring; then they come forth greatly invigorated, and are soon found luxuriating on that food which the great God of Providence has prepared for them.

THE WILLOW.

ערבים, ARABIM. *To mingle.*

JOB, XL. 22.—"*The shady trees cover him with their shadow; the willows of the brook compass him about.*"

THE willow, spoken of in Scripture, is distinguished by the name *arabim*, signifying mixture, because its leaves are of a mixed colour, being green on the one side, and whitish on the other.

The *willow* is thus distinguished. It hath amentaceous flowers, that is, hanging down like threads, which are collected into a spike, and are barren. The embryos are produced upon different trees from the male flowers, and afterwards become a fruit or husk, shaped like a cone, opening in two parts, and containing downy seeds.

The willow is a very common tree, so common, that it is found almost in all climates and in all countries. It prevails in marshy places, growing beside streams and rivers, and adding very much to the beauty and sylvan appearance of their banks. The leaf is beautiful, and bears a very striking resemblance to that of the olive. The Rev. John Campbell informed me, that from his own observation, he knew that the willow was found in great diversity of climate and country, and that he had often seen the willow grow-

THE WILLOW.

ing luxuriantly on the banks of African streams and rivers.

The willow is easily propagated by cuts introduced into moist ground suited to its nature, where they soon take root and grow with astonishing rapidity. It is on this account saints making rapid progress in heavenly attainments are compared in Scripture to willows. (Isaiah, xliv. 4.) "And they shall spring up among the grass, as willows by the watercourses." So ready are willows to take root, that if an old stump, not destitute of life, lie on the ground, it will sprout forth twigs.

Willows were very abundant upon the banks of the river Euphrates; therefore, the captive Hebrews are represented as hanging their harps upon the willows, their hearts being at that time so sad as to be unable to sing any of the songs of Zion. How very expressive the language of inspiration which gives an account of this touching event. (Psalm cxxxvii. 1, 2, &c.) "By the rivers of Babylon there we sat down; yea, we wept, when we remembered Zion. We hanged our harps upon the willows, in the midst thereof. For they that carried us away captive required of us a song, and they that wasted us required of us mirth. How shall we sing the Lord's song in a strange land?"

Willow branches were used by the Jews in their religious rites and sacred ceremonies. At the Feast of Tabernacles they used willows in erecting their tents. (Lev. xxiii. 40.)

EGYPTIAN OWL.

PSALM CII. 6.—"*I am like an owl of the desert.*

STRIX ASCALAPHUS, or *short-crested owl*, is also called the *Egyptian owl*, because it prevails in Egypt as well as in other parts of Africa. It is one-fourth longer than the common species, and like it, yellow, dotted with brown, and vermiculated, that is, adorned with a variety of beautiful colours on the back. The belly is striped across with narrow lines, and the crests very short. This bird is not only met with in Egypt, but also in Asia Minor and in Persia. Pennant, who is a great authority, tells us, that it is found in all the central countries of Europe, and also in Scotland. It feeds on moles, rats, mice, bats, on small birds, and insects.

HABITS OF OWLS.

Night is that period of time in which owls exert all their energies in promoting their comfort and seeking their sustenance. In fact, night is their day. Like the worst of our species, their deeds are "deeds of darkness." They live by rapine and destruction, and therefore they prefer the darkness before the light. It is during the gloomy shades of night, the objects which they seek as their victims are asleep and off their guard. Then the owl falls upon them and riots

THE EGYPTIAN OWL.

on their blood. Unsuspecting and asleep, they suddenly awake and find themselves in the cruel talons of a nocturnal murderer, from whose powerful muscular grasp they cannot escape.

There is evidently an adaptation of body in birds of night by which they are fitted for their nocturnal pursuits. This proves that their habits are not the result of caprice, or accident, or even instinct uninfluenced by natural causes. The formation of the owl is not suited to the full light of day; it is so formed, that it can only live in partial darkness. It cannot properly exercise its sight, except in the dusk of the evening or the grey of the morning. On account of the unusual largeness of the disk of the pupil of the eye, the brightness of the noonday sun would dazzle and blind it by an overwhelming entrance of light. But what renders it unfit for vision by day qualifies it for seeing objects by night. From the uncommon largeness of the pupil of its eye, the rays of light, which are more widely diffused, that is, fewer in number and more apart, are admitted in greater quantities into the eyes of owls than into the eyes of other birds whose eyes are differently formed. The owl makes very little noise in its flight, not even so much as would awake those birds which are the objects of its plunder.

COCKCHAFER-BEETLE.

THE parent insect of the cockchafer has two fore-legs, which are short, and well calculated for burrowing. Having prepared a proper place in the ground, it proceeds to deposit its eggs; after a short time, from each of these eggs comes forth a worm of a whitish colour, having six legs. The head is red, the claws are strong and about an inch and a half in length. This worm lives in this state in the earth for four years. During that period its skin undergoes various changes, until it assumes the form of a chrysalis. Observe how it subsists in its worm-state. While living underground, it falls on the roots of trees and plants, and their appearance above ground plainly demonstrates that there is some destroyer below committing the most dangerous ravages. These creatures, in immense quantities, will sometimes work betwixt the soil and the turf in rich meadows, and to a very considerable extent destroy the roots of the grass. In a few weeks, near Norwich, a fine rich field of grass was so injured by these grubs, that the grass withered, and became dry and brittle as hay.

When they are about to pass into the chrysalis state, they make for themselves a kind of grave, where they remain entombed throughout the whole winter until the month of February, when they are perfectly formed beetles. It is, however, not till the month of May,

THE COCKCHAFER-BEETLE.

they become sufficiently strong to be able to come out of the earth and appear in open day. It is exceedingly interesting to the pious and contemplative mind to see, in numerous instances, the analogy betwixt insects coming out of their chrysalis and their temporary graves into all the lovely and glowing perfection of their being, and the resurrection of the saints in the morning of the last day, when they shall come forth to a glorious immortality, shining brighter than the sun in his strength.

In various places they have appeared in such immense quantities, as to prove actually a calamitous visitation. In Galway, in the year 1688, and that for the space of two or three square miles, they actually darkened the air, and to a considerable extent stript the surface of the country of all its verdure, literally leaving it naked and desolate. In a farm near Norwich, a farmer and his servants gathered eighty bushels of them; he sustained so much injury by their ravages, that the court of that ancient city allowed him twenty-five pounds as some compensation for his loss. In 1574 they fell in such quantities into the Severn, as to clog the water-wheels of the mills.

THE SILKWORM.

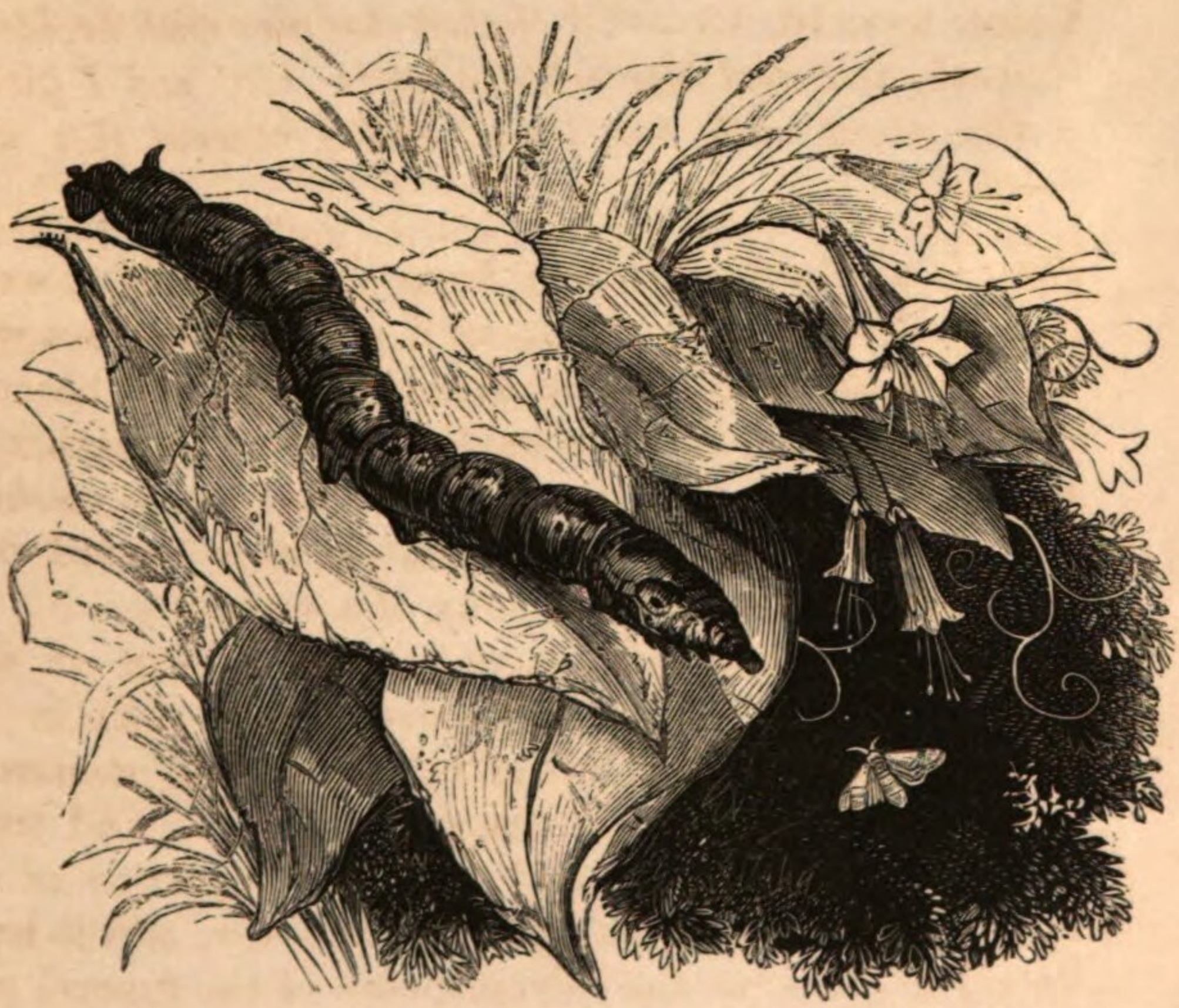
משי, MESHI. *Silk; to draw forth.*

EZEK. XVI. 10, 13.—"*I clothed thee also with broidered work, and shod thee with badger's skin, and I girded thee about with fine linen, and I covered thee with silk.*"

SILK is a substance drawn from the body of a worm in a fluid state. The moment it comes in contact with the air it undergoes a remarkable change, and becomes hardened; then it assumes the form of an extremely soft and glossy thread. The Hebrew name *meshi* is exceedingly appropriate to *silk*, as it is formed of a substance drawn from the body of a worm.

There are few substances so well known as silk, and there are few so extensively used. It is the favourite of all ranks. It adds splendour to monarchs, princes, and nobles, on occasions of royal and magnificent state. It is used as a chief portion of the raiment of the bride on her marriage-day, and it lends its aid to increase the solemn pomp of the funeral procession.

It is interesting not only to think of the myriads who are partly clothed by silk, but also of the wealth accumulated by its trade, and the tens of thousands who derive their sustenance from its manufacture. We have good reason to be lost in wonder when we



THE SILKWORM.

consider, that a commodity so beautiful, so costly, so useful, and so abundant, is only the produce of a worm.

The PHALÆNA MORI, or silkworm, in its native state, is found on mulberry-trees in China and other eastern countries. This extraordinary useful insect was introduced into Europe in the reign of Justinian, as far back as the sixth century.

The eggs of the silkworm are about the size of a pin's head, and of a straw colour. At first the larva, or worm, is completely black, which colour it retains eight or nine days, and it is in length about the size of a small ant. During eight days after its birth it continues feeding, at the termination of which time it becomes about the fourth of an inch in length; then it continues asleep for three days, after which time it casts its skin; after this it feeds and grows other five days, when a second sickness, or periodical change comes on; during the next ten days it undergoes two additional changes, when it has attained its full growth. During five days after it feeds with voracious appetite; then it refuses food, becomes transparent, with a tinge of yellow, and leaves silken traces on the leaves over which it passes; soon after it begins to form its coccoon, or ball of silk, spun from two longish bags, which lie above the intestines, and are filled with a gummy fluid of the colour of marigold; after completing its ball it remains in the state of chrysalis forty-seven days, and then bursts forth a winged insect.

THE BRAMBLE.

אטד, ATAD. *A thorn.*

JUDGES, IX. 14.—"*Then said all the trees unto the bramble, Come thou, and reign over us.*"

THE *bramble* is a species of thorn with beautiful flowers and sharp prickles, straight, and not crooked as in other thorns.

The RUBUS, or *bramble*, in Britain, is the *raspberry-bush*, a genus of the *polygynia* order. The principal species is the common raspberry, which, with its varieties, deserves culture in every garden for their excellent fruit. Those which most particularly deserve the preference are the common red kind, the white, and the twice-bearing raspberry, all of which bear luxuriantly. Those which are chosen principally for general plantations are the common red and the white, which exceed all the rest in the quantity of fruit which they produce.

The other species are considered as plants of variety for hardy plantations in the shrubbery. Some of them are ornamental flowering plants, such as the Virginian flowering raspberry, and the double-blossomed bramble, and the white-berried bramble, which is a great curiosity.

Whether the *atad*, or bramble of Judea, is of the same class with the bramble of Britain, we are not

THE BRAMBLE.

able to determine. Scheuzer, a celebrated naturalist, considers that the *atad* is the *rhamnus*. This tree is well calculated to represent a tyrant. A tyrant affords no shade or shelter to such as seek his protection, but strips them of their property, and wounds them into the bargain. This is very strikingly illustrated by the *rhamnus*, or *bramble ;* it can afford neither shelter nor protection ; when the sheep come in contact with it, they suffer the loss of their wool, and it is in vain for them to look to it for shelter or shade from the burning rays of a sultry sun.

There is a passage in Holland's translation of Plutarch which illustrates the idea now given of *atad*, which, instead of affording shelter, should strip those of their property who sought its shade and protection. The sentence is this : " Whereupon is thought that Demosthenes forsook his colours and fled. Now, as he made haste away, there chanced a bramble to take hold of his cassock behind ; whereupon, he turned back and said to the bramble, 'Save my life and take my ransom.'"

The *bramble* is particularly mentioned in the fable of Jotham, in the ninth chapter of Judges. It is striking that this is the oldest fable found in any language. One cannot read it with care without admiring it for its spirit and application. It is throughout most lively, and it gives a most correct and just account of that tyrant Abimelech, who was the curse and the scourge of those who sought his protection. Jesus, thou art the only refuge!

THE SERATELLA MOTH.

ISAIAH, L. 9.—"*Behold, the Lord God will help me; who is he that shall condemn me? lo, they all shall wax old as a garment; the moth shall eat them up.*"

THE SERATELLA MOTH is a small insect, which, like the owl, roams abroad during the night. It is furnished with its share of ornament. Its colour is brown, and the upper wings, which are beautifully fringed, are marked with numerous black dots and stripes. The under wings are much smaller than the upper, and fringed at the edge. The hind legs are nearly twice the length of the body, and fringed at their articulations, or joints.

The eggs from which the larvæ, or worms, of this moth come forth, are generally attached to the leaves of the pear-tree, but more seldom to those of the apple and plum in the month of May. These are succeeded by small, downy, fawn-coloured cylinders; they contain a small yellowish caterpillar with a black head; when its cell becomes too small, it is guided by instinct to divide it lengthways, by means of its jaws, and then, very nicely and completely, closes up the opening with new and suitable materials. The activity of this insect in making for itself a comfortable habitation, should teach us to seek after a title to a comfort-

THE SERATELLA-MOTH.

able and secure abode beyond the skies, even a house not made with hands, eternal in the heavens.

The mode which this caterpillar adopts in feeding is singular. It does not quit its cell while it feeds; the cell is fixed to the leaf by silken threads; the insect has the power of stretching out its body to a considerable extent; it gradually devours all within its reach, forming a complete circle; when this is effected, it cuts the threads which attach the cell to the spot and crawls to another part of the leaf, to which it fixes its little humble abode. The period of its caterpillar life continues fourteen days from the time it was hatched from the egg; then it becomes a torpid, motionless chrysalis, in which state it continues about ten days.

It is in the months of May or June these moths come forth in immense swarms.

The females only deposit one egg at once, and seldom more than one on the same leaf. These insects are small, yet, from their numbers and voracious appetite, they occasionally commit great devastation in our orchards. In some years the leaves of pear-trees have been completely destroyed, and in the summer season have been as completely denuded and stript as in the middle of winter. Thus, we see, how easily, by the most insignificant means, God can blast our earthly hopes.

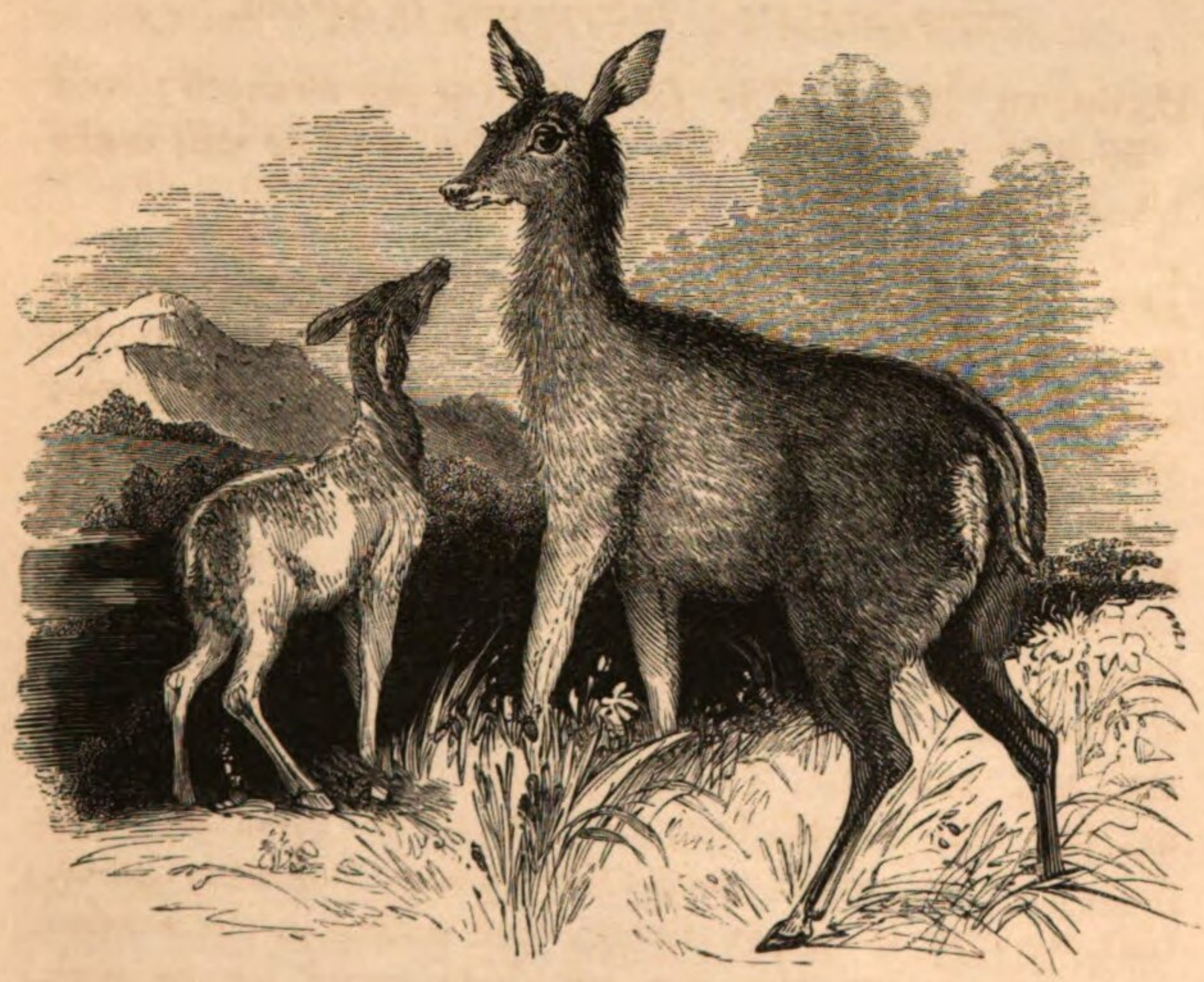
HIND.

אילה, AJALAH. *Interposing to defend.*

HABB. III. 19.—"*The Lord God is my strength; and he will make my feet like hinds' feet, and he will make me to walk upon my high places.*"

THE hind is the mate, or female, of the stag. There are few quadrupeds so lovely in appearance or so elegant in proportion. It is proverbial for swiftness; and it is one of the most animating sights in nature, to see a flock of hinds bounding their course along the plain or over the mountain's brow. As it leaps among the rocks, it is remarkable for the accuracy of its leaps and for the sureness of its step: in reference to this David says, in language peculiarly poetical, striking, and just, (2 Sam. xxii. 34,) "He maketh my feet like hinds' feet, and setteth me upon my high places." Are hinds swift? let us seek heavenly grace, that we may be swift, lively, and active in the service of our God. Is the step of hinds sure? let us seek faith, that we may be firmly fixed upon the Rock of Ages.

The hind is remarkable for its timidity. The Psalmist gives us a lively picture of the hind overwhelmed with fear during the raging of the thunderstorm, and when the vivid lightning is flashing across the sky: (Psalm xxix. 7, 9:) "The voice of the Lord



THE HIND.

divideth the flames of fire. The voice of the Lord maketh the hinds to calve, and discovereth the forests." This is the case during the darkness of night, when the sudden flashes of light in a moment shows to a person walking on an eminence the forest, which immediately before was enveloped in darkness. Dr Harris thus renders the passsage :—

"Hark! his voice in thunder breaks,
And the lofty mountain quakes;
Mighty trees the tempests tear,
And lay the spreading forests bare."

And thus the immortal Watts, with the change of one word, which I render *thunder* instead of *tempest* :—

"He speaks! and thunder, hail, and wind,
Lay the wide forests bare around;
The fearful hart, and frighted hind,
Leap at the terror of the sound."

Solomon very appropriately compares the love of husband and wife to the fond and undeviating attachment of the hart and the hind : (Prov. v. 19 :) "Let her be as the loving hind and pleasant roe."

Jacob, in blessing his son Naphtali, says, (Gen. xlix. 21,) "Naphtali is a hind loose; he giveth goodly words." This appears, if we consider the future residence of the tribe of Naphtali; their inheritance was along the shores of the Mediterranean and the south of Lebanon, a beautiful woodland country, and producing a variety of the richest fruit.

TARES.

Ζιζανιον, ZIZANION. *From a Hebrew word, to feed upon.*

MATT. XIII. 25.—"*But while men slept, his enemy came and sowed tares among the wheat, and went his way.*"

THE general opinion is, that by the *tares*, we are to understand the *lolium temulentum*, or *darnel*. This herb has been long known for its intoxicating quality. The description which Theophrastus gives of it, exactly agrees with the *lolium temulentum*, or *darnel*. He describes the leaf as thick, narrow, and smooth. This is precisely the character of the leaf of the darnel. In eastern countries this weed was literally the pest of the farmers. It often grew among the wheat, and they found it could only be removed by the greatest difficulty. Thus it is a correct figure of the corruptions of the heart, of vicious habits in the life, and of wicked men prone to every crime mingling with society, and the bane of the human race. It is on this account our Saviour introduces the *tares* into his parable. The poisonous nature of the darnel has been often ascertained by chemical experiments and analysis. It is surprising it should be poisonous, because it belongs to the same gramina family as barley, wheat, and the most wholesome, useful, nutritious herbs.

TARES

The darnel is well known in Aleppo, as it grows abundantly in the corn-fields all around; and wherever we look, almost in every family, we see moral tares. If the seed of darnel is mingled with the meal, soon those who partake of it experience the injurious effects, such as dizziness in the head, and other pernicious consequences.

In different parts of Syria this weed is carefully pulled up by the hand while the corn is being reaped, it is then tied up in bundles, and afterwards burnt. This practice is figuratively illustrative of the separation which will take place at the last day betwixt the righteous and the wicked. On that awful and solemn day, the ungodly shall be separated by the angels, gathered together in bundles, and then consigned to endless punishment in the abodes of the lost. God forbid that such a fate should be ours!

The darnel, as Mintert informs us, bears a striking resemblance to corn. He says, "It is a kind of plant, or weed, not unlike corn or wheat, having at first the same sort of stalk, and the same greenness, but bringing forth no good fruit." Here we have a figurative description of the hypocrite, who mingles with genuine Christians, and who puts on no more than the outward mask of religion, breathing a spirit, possessing a nature, and animated by motives completely different from those of true saints.

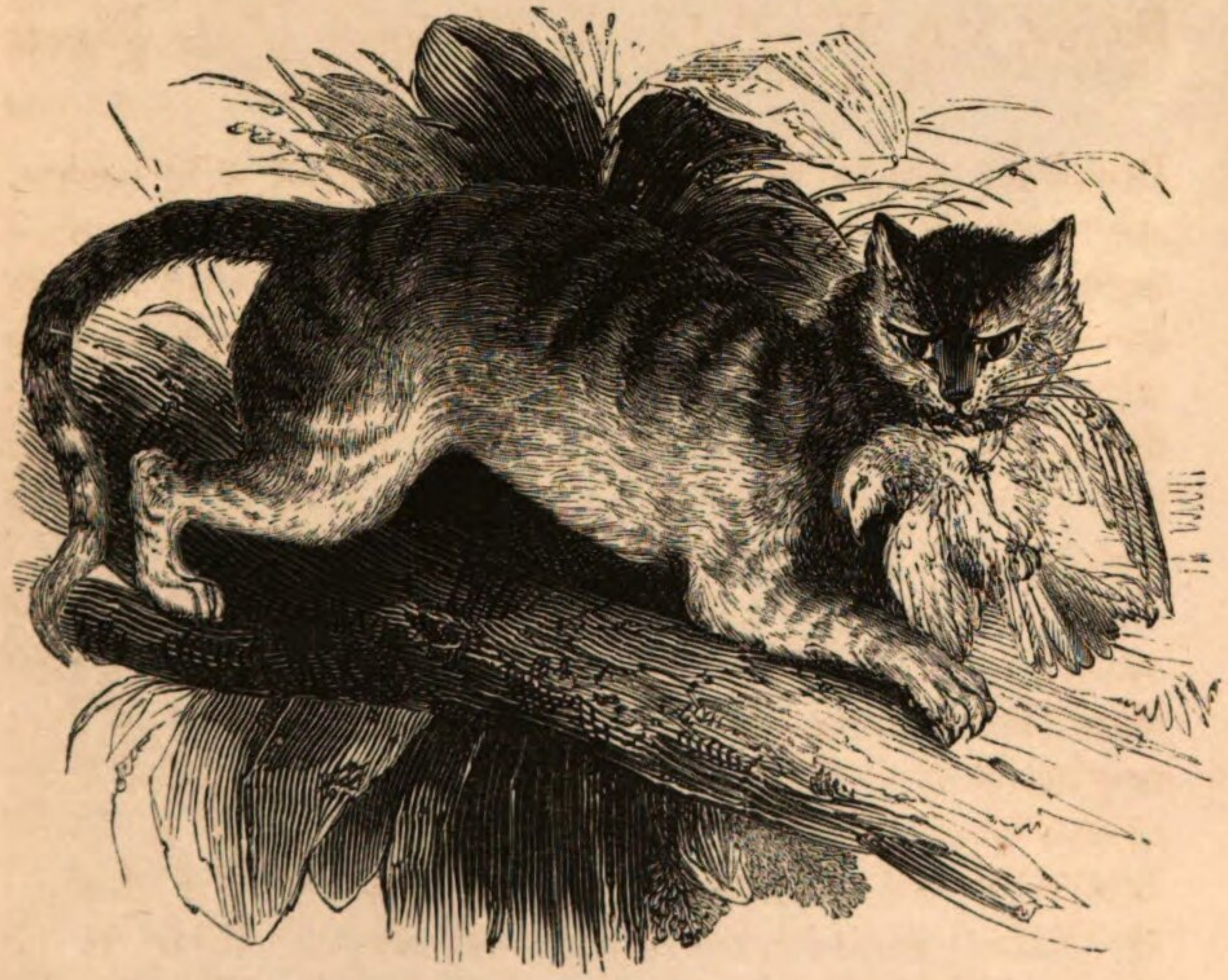
WILD CATS.

ציים, TZIIM. *Inhabitants of the desert; dryness.*

ISAIAH, XIII. 21.—"*And the wild beasts of the islands shall cry in their desolate houses.*"

BOCHART thinks that the *tziim*, translated wild beasts, are the *wild cats*. The description given in the passage above of the noises uttered by the wild beasts in old ruined buildings and palaces, very closely agrees with the habit of the cat species, uttering amid the darkness of midnight dreadful and disagreeable plaintive howlings, which are heard at a very considerable distance.

FELIS CATUS, or *cat*, is a quadruped with which we are all familiar. Though in a tame and domesticated state it is most sociable, useful, and harmless, yet originally it is furious as the tiger, and blood-thirsty as the hyæna. In all quarters of the globe it is found in a wild and unreclaimed state. Though the domestic varieties are exceedingly numerous, there is no doubt that they have all originated in that species which roams in woods and forests. The various points of appearance and manners in which the wild and domestic agree, plainly show that both species have proceeded from one common origin; however, the wild cat is much less subject to variety than the tame one, the intestinal canal is considerably shorter; it is, be-



THE WILD CAT.

sides, larger and stronger, and the fur of much greater length. The fur is generally soft and fine, of a pale yellow, blended with grey. A dusky list runs along the middle of the back from head to tail, the sides are streaked with grey, and the tail is thick and marked with alternate bars of white and black. It is partial to hilly and woody tracts, and lives in trees. Of course it is an expert hunter; birds, rabbits, hares, mice, rats, and moles, are among the number of the objects of its rapacious prey: it is well known that in the country domestic cats are lawless poachers; at night they sally forth, and participate largely in the enjoyment of field-sports. Wild cats will even invade the outhouses of the peaceful farmyard and carry off young poultry. They will also spread abroad their havoc among lambs, kids, or fawns, and thus prove themselves to be the most destructive beasts of prey in this island. The wild cat fights with determined valour; if only slightly wounded, it will rush on its assailant and is repelled with difficulty. Some reach a very considerable size, and have measured upwards of five feet from nose to tail. They abound in certain parts of Argyleshire, lodging in the crevices of rocks and in holes in the face of dreadful precipices.

ASH-TREE.

אֹרֶן, OREN. *To vibrate quickly.*

ISAIAH, XLIV. 14—"*He heweth him down cedars, and taketh the cypress and the oak, which he strengtheneth for himself among the trees of the forest; he planteth an ash, and the rain doth nourish it.*"

FRAXINUS, or the *ash*, is a genus of the *diœcia* order, belonging to the *polygamia* class of plants. There are six species, of which the most useful is the *common ash*, a tree well known almost in every part of our country. This tree is of rapid growth, and where the wood can be kept dry, is of almost universal use. Its flower is of the apetalous kind; its stamina have usually double heads: the pistil at last becomes a fruit of the figure of a tongue, and which contains a seed of the same shape.

By proper management, a wood of these trees may be turned to great advantage to the owner. By the underwood, which will be fit to cut every eight or ten years, there will be a continual income, more than sufficient to pay the rent of the ground and all other charges; and still there will be a stock preserved for timber, which, in few years, will be worth from forty to fifty shillings per tree.

This tree flourishes best in groves, but grows well in rich soil in open fields. We often see it growing

THE ASH-TREE.

luxuriantly in hedge-rows and by the wayside. When the leaves are fully developed, it is a tree of very considerable beauty. It bears transplanting and lopping. It was a practice in the north of Lancashire, when the grass was on the decline in autumn, to lop the branches and the tops of these trees to feed the cattle, which peeled off the bark for food. It is a very singular property, the wood is nearly as good when young as when old. It is hard and tough, and is much used in making tools employed in husbandry; the ashes of the wood afford a very good description of potash; the bark is used in tanning calfskin. A slight infusion of the liquid appears of a pale yellowish colour, when viewed betwixt the eye and the light, but when looked down upon, or placed betwixt the eye and a dark object, appears blue. The seeds are acrid and bitter.

In the churchyard of Lochaber, in Scotland, Dr. Walker measured the trunk of a dead ash-tree, which, at five feet from the surface of the ground, was fifty-eight feet in circumference.

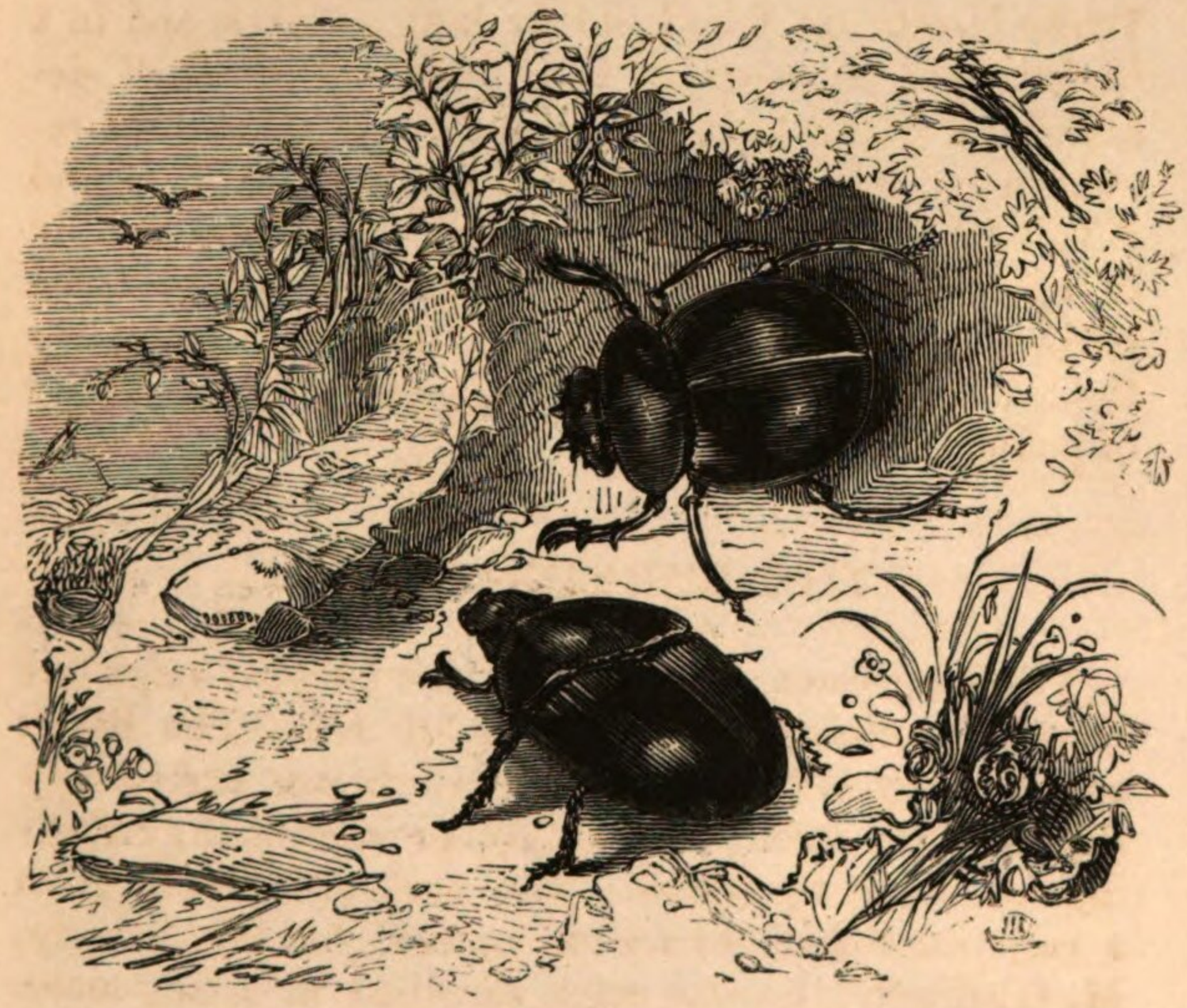
In Scripture, this tree is mentioned in connexion with the abominable worship of idols. The prophet Isaiah informs us, that with part of this tree the idolators formed their idols, with part they baked their bread, and warmed themselves with the rest.

CARRION-BEETLES.

THESE insects are found chiefly both as larvæ and in a perfect state, choosing as their residence the half decayed and putrid bodies of animals. What is most repulsive and disgusting to us, is the most inviting and delightful to them. Their chief enjoyment lies in luxuriating on corruption and death. This furnishes a striking emblem of man estranged from God, avoiding the loveliness of holiness, and wallowing in the putridity of pollution and sin.

THE BURYING-SYLPH.

The wing-cases and body of the *burying-sylph* are black; the clubs of the antennæ are red. The habits and economy of this species of insects are exceedingly striking, and cannot fail deeply to interest the reflecting and inquiring reader. The account is taken from a very intelligent writer on natural history, namely, M. Gleditsch; he was much surprised at seeing moles which were left dead upon the ground suddenly disappear; he was therefore determined to make himself acquainted with the cause of this singular occurrence. On the 25th day of the month of May, he placed a dead mole on the moist, soft earth of his garden; in two days he found it sunk to the depth of four fingers'



CARRION-BEETLES.

breadth into the earth. It was in the same position in which he had placed it, and its grave corresponded exactly with the dimensions of its body, both as to length and breadth. The day following the grave was half filled up: he cautiously drew out the mole, which exhaled the most pestiferous and offensive odour, and found directly under it little holes, in which were four species of the *burying-sylph* species; discovering at this time nothing but these beetles. he put them into the hollow, and they speedily hid themselves in the earth; he then replaced the mole where he found it; he placed a little soft earth over it, and left it, without looking at it for the space of six days. On the 12th of June he again took up the same carcass, which he found in the highest state of corruption, swarming with small, thick, whitish worms, which appeared evidently to be the family of the beetles. These circumstances induced him to believe, that it was the beetles which had thus buried the mole, and that they had done this for the sake of a lodging for their offspring.

This same philosopher found, that in the course of fifty days, four beetles interred the bodies of *four* frogs, *three* small birds, *two* grasshoppers, and *one* mole, besides the entrails of a fish and two small pieces of the lungs of an ox.

BALSAM-TREE.

בעלשמן, BAAL-SHEMEN. *Chief scenting ointment.*

GENESIS, XXXVII. 25.—"*And, behold, a company of Ishmaelites came from Gilead, with their camels bearing spicery, and balm, and myrrh, going to carry it down to Egypt.*"

BRUCE, the celebrated traveller, has furnished a minute account of the balsam-tree. He informs us that the *balessan*, *balsam*, or *balm* is an evergreen shrub, or tree, which grows to about fourteen feet high, spontaneously and without culture in its native country, Azab, and all along the coast to Babelmandel, situated at the entrance into the Red Sea. The trunk is about eight or ten inches in diameter; the wood light and open, gummy, and outwardly of a reddish colour. It is incapable of receiving any polish, and is covered with a smooth bark like that of a young cherry-tree. It flattens on the top, like trees that are exposed to snow-blasts or sea-air, in consequence of which it has a stunted appearance. When we consider how valuable it is for the delightful ointment which it furnishes, we should naturally expect that this far-famed shrub would appear rich with an exuberance of evergreen leaves. The reverse is the case; for it is remarkable for the scarcity of its leaves. So it is with human beings, where there is much inward excellence, there

THE BALSAM-TREE.

is sometimes but little outward ornament. The flowers are like those of the acacia, small and white; but only these hang upon three filaments, or stalks, while the acacia has but one; two of these flowers fall off and leave a single fruit: the branches which bear these are the shoots of the present year; these have a reddish colour, and are tougher than the old wood: the blossoms, when they disappear, are followed by yellow, fine-scented seed; these are enclosed in a nut, reddish black, and pulpy, very sweet, and containing a yellowish liquor, resembling honey.

There were three kinds of balsam extracted from this tree: the first was called *opobalsamum*, and was held in chief estimation as most valuable; this either flowed spontaneously, or by means of incision, from the trunk or branches of the tree in the summer season. The second was the *carpobalsamum*, made by pressing it from the fruit when in maturity. The third, and least valuable, was *hylobalsamum*, made from a decoction of the small twigs and buds.

We learn from Genesis that the balsam-tree was known and valued at a very ancient period of the history of man. This tree grew in Gilead 1730 years before Christ. The medicinal qualities of the balm extracted from this tree are so great, that the righteousness of Christ and the graces of his Spirit are figuratively described as the *balm of Gilead*.

LILY.

שושן, SHUSAN. *Exultation; sixth.*

HOSEA, XIV. 5.—"*I will be as the dew unto Israel, he shall grow as the lily, and cast forth his roots as Lebanon.*"

WHY is the name *shushan* given to the lily? because of its six leaves and its remarkable whiteness. The original Hebrew word from which *shushan* is derived, signifies to exult; hence the sixth day receives the name *shesh*, because the sixth day was the day of exultation for the finishing of creation, when, as Job says most poetically, "the morning stars sung together, and all the sons of God shouted for joy." (Job, xxxviii. 7.)

The *lily* is a well-known flower, and greatly admired for its loveliness to the eye and its delightful odoriferous fragrance to the smell. This elegant flower furnished the pattern of numerous and appropriate ornaments to the temple, and rich glowing figures to that animating inspired poem which bears the name of Solomon.

There are several flowers which are known by the name lily One description consists of six leaves exhibiting the shape of a bell; the pistil is in the centre of the flower, and becomes an oblong and three-cornered fruit, containing two rows of seeds; the root is bulbous. Lilies are highly stately flowers, and

THE LILY.

many spring from one root. Lilies have a combination of excellencies; they are comely, fragrant, and medicinal.

Tournefort mentions forty-six kinds of lilies. There is, besides, the *lily-of-the-valley*, particularly mentioned in Scripture. This has only one leaf, formed in the shape of a bell, and of which there are seven kinds: these grew in Palestine in very great numbers, that it appears they heated their ovens by withered ones. (Matt. vi. 28, 29, 32.) "Consider the lilies of the field, how they grow; they toil not, neither do they spin: and yet I say unto you, that even Solomon, in all his glory, was not arrayed like one of these. Wherefore, if God so clothe the grass of the field," (that is, the lilies,) "which to-day is, and to-morrow is cast into the oven, shall he not much more clothe you? O ye of little faith."

The ancient capital of Susiana, in Persia, where Esther dwelt in regal magnificence, as the Queen of Ahasuerus, was called *Shusan*, or *lily*, from the extraordinary quantity of lilies which grew around it.

Pliny considers the lily as next in excellence to the rose. In the East it is the emblem of purity and moral excellence. Sadi, the Persian poet, compares an amiable youth to "the white lily in a bed of narcissuses," because he surpassed all the young shepherds in goodness.

Christ is called the *lily-of-the-valley*, to express his loveliness, excellence, and usefulness.

ANISE.

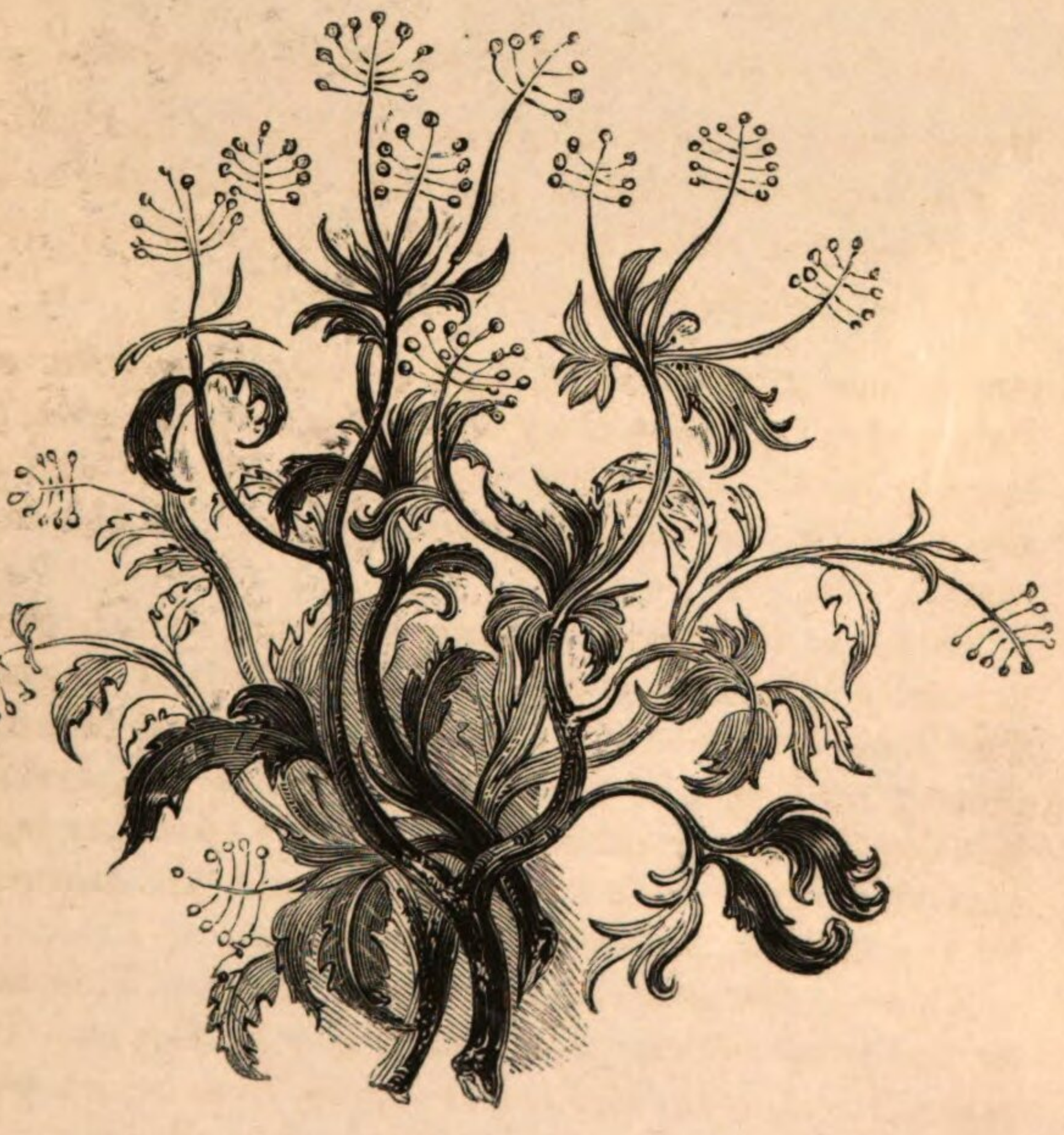
Ανηθον, ANETHON. *To run up, or to embalm.*

MATT. XXIII. 23.—"*Woe unto you, scribes and pharisees, hypocrites! for ye pay tithe of mint, and anise, and cummin, and have omitted the weightier matters of the law, judgment, mercy, and faith.*"

ANISE has several names, such as *dill*, *pimpinella*, and *burnet saxifrage*. It is a genus of the *digynia* order, belonging to the *pentandria* class of plants. There are seven species, of which the two following are the most remarkable.

There is the *major burnet saxifrage*, which grows naturally in chalky woods in several parts of England. The lower leaves of this sort are winged, and of a dark green: the height of the stalks is about a foot, dividing into four or five branches. The flowers have five heart-shaped petals, which turn inward, and are succeeded by two narrow, oblong, channelled seeds.

There is the *anisum*, or *common anise*. This is an annual plant which grows naturally in Egypt. It is also cultivated in Malta and Spain, from which places the seeds are annually imported into Britain. The lower leaves of this plant are deeply cut on their edges; the stalk rises to the height of a foot and a half, dividing into several slender branches beautified with narrow leaves; these are cut into three or four



ANISE.

narrow segments, terminated by pretty, large, loose umbels, composed of smaller umbels, or rays, which stand on pretty large footstalks. The flowers are small and of a yellowish white.

Both these kinds of anise are useful for medicinal purposes. The roots have a grateful, warm, pungent taste, which is entirely extracted by rectified spirit. The root promises, from its sensible qualities, to be a medicine of considerable utility, though little regarded in common practice. In former days, German physicians, such as Stahl and Hoffman, were extremely fond of it, and strongly recommended it for several complaints. They administered it with considerable success in scorbutic and cutaneous disorders, foulness of the blood, obstructions of the glands, and diseases proceeding from a deficiency in the fluid secretions.

Aniseeds have an aromatic smell and an agreeable warm taste, accompanied with a degree of sweetness. It is curious that water extracts very little of their flavour, while it is wholly extracted by rectified spirit.

Aniseed is much used by confectioners and perfumers. Itself, with the oil and water distilled from it, is an excellent cordial. It grew plentifully in Judea.

GOPHER-WOOD-TREE.

גפר, עצי, ESTE, GOPHER. *Firm; resinous.*

GEN. VI. 14.—"*Make thou an ark of gopher-wood: rooms shalt thou make in the ark, and shalt pitch it within and without with pitch.*"

THIS wood was honoured above all other descriptions of wood that grew in the immense luxuriant forests of antediluvian ages. Of it was formed that ark, which was destined to contain and preserve the ancestors and founders of all the races of rational and irrational creatures that should inhabit the earth, from the period of the drying up of the waters of the deluge, till the time when the last trumpet shall summon the nations of the earth to appear before the tribunal of the Judge of all! The gopher-wood must have possessed the most remarkable properties of durability, when we consider, that Noah was engaged in building the ark for one hundred and twenty years. The first plank, or beam, that was employed when the huge structure of the ark was commenced, was as fresh at the close of one hundred and twenty years as when it was first formed by the hands of those artificers who worked under the direction of Noah. The gopher-tree must also have grown in great abundance. No doubt, in the immediate vicinity of the spot where Noah was engaged in building the ark.

THE GOPHER-WOOD-TREE

The name *gopher-wood* only occurs once in Scripture, namely, Gen. vi. 14. There are various opinions about this tree. Some Jewish Rabbins have considered it to be *cedar*. Some translate the word, *pitched wood*. Others translate it, *wood most proper to float*. Some prefer the opinion of those who consider that the ark was made of *cedar*. Their reason is, the great quantity of cedar which grows in Asia. Herodotus, the most ancient of Greek historians, relates, that the kings of Egypt and Syria built whole fleets of it. They also think their opinion confirmed by the fact, that there is no wood more durable than the cedar, or more fit successfully and long to resist the influence of the elements and the assaults of time. There is, besides, a common tradition prevailing throughout the East, that remains of the ark are still found on Mount Ararat, and these remains are cedar-wood.

Bishop Wilson says, that great quantities of the cypress, a species of cedar, grew close to Babylon, near which the ark was built; and he thinks that the ark was formed of cypress. It seems, that Alexander the Great built a whole navy of the cypress which grew near to Babylon. Josephus, the celebrated Jewish historian, says, that some remains of the ark were to be seen in his days, that is, two thousand three hundred and forty-nine years after Noah left the ark. This durable wood we may consider typical of the duration of Christ's church.

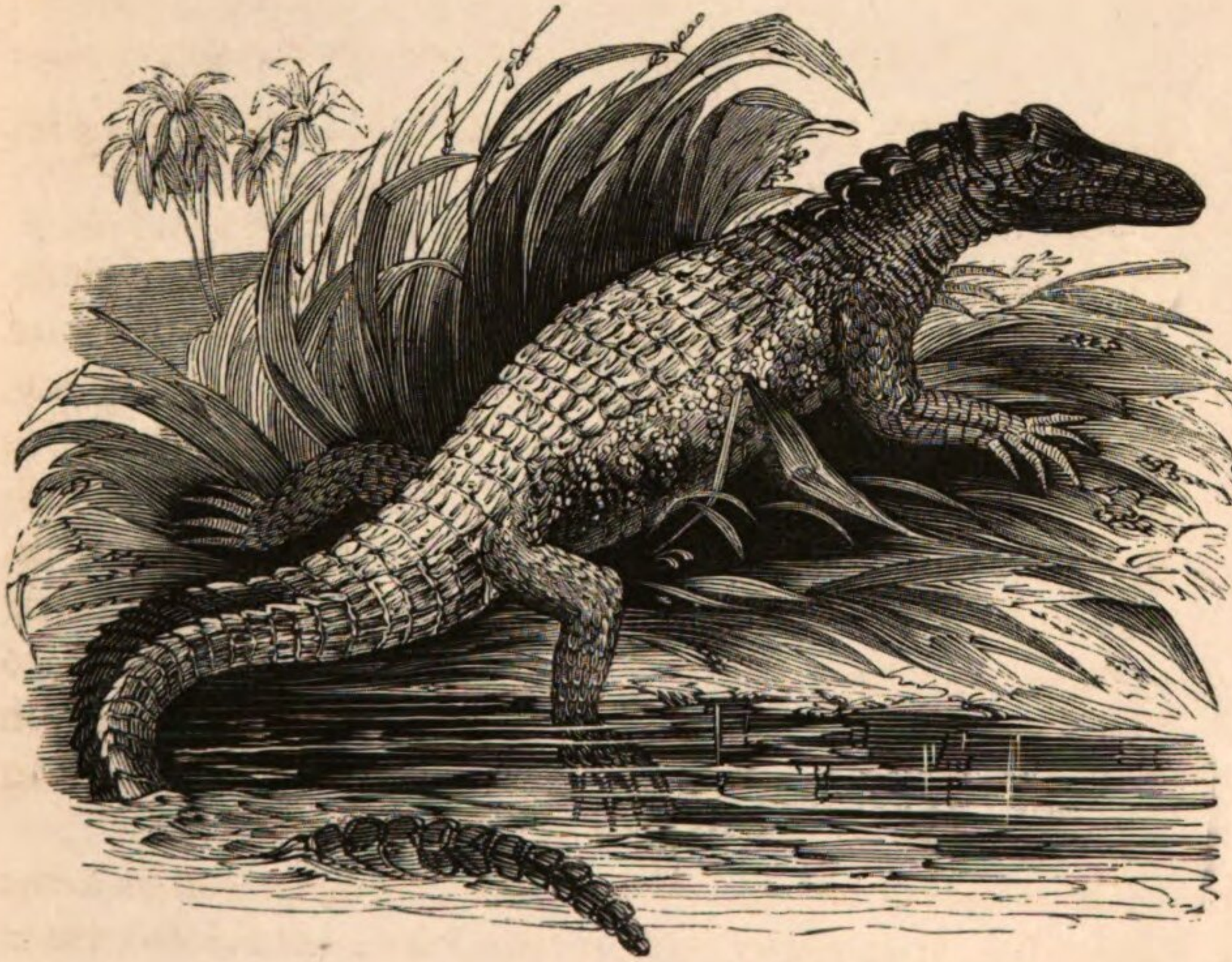
LIZARD.

לטאה, LETAAH. *Adhering closely.*

LEVIT. XI. 29, 30.—"*These shall be unclean unto you, the lizard, the snail, and the mole.*"

THE name LIZARD, or LACERTA, is given to a numerous genus of the amphibious class, and of the order of reptiles. The species of this genus are not only numerous, but very diversified. While their shape is remarkably alike, their size is still more remarkably different. One species only a few inches in length, which you can easily carry in your hand, and another species, like the crocodile or alligator, from twenty to thirty feet in length. One species formed to feed on flies and little insects, and another, with its devouring jaws, able to destroy and eat a human being.

The LACERTA ALLIGATOR so greatly resembles the crocodile, that many naturalists have considered them as only a variety of the same species. There are, however, marks of difference, which plainly show they are two distinct species of the same great genus. As for instance, the head of the alligator is smooth on the upper part, while that of the crocodile is marked with strong rugosities and hard bony scales. The snout of the alligator is considerably flatter and wider, and more rounded at the extremity than that of the crocodile.



LIZARD.

LACERTA ALLIGATOR.

Alligators are found in North Carolina, in the river Nevis, about thirty-three degrees of north latitude, and which corresponds to the northernmost parts of Africa, where these huge and frightful amphibious reptiles are found to prevail.

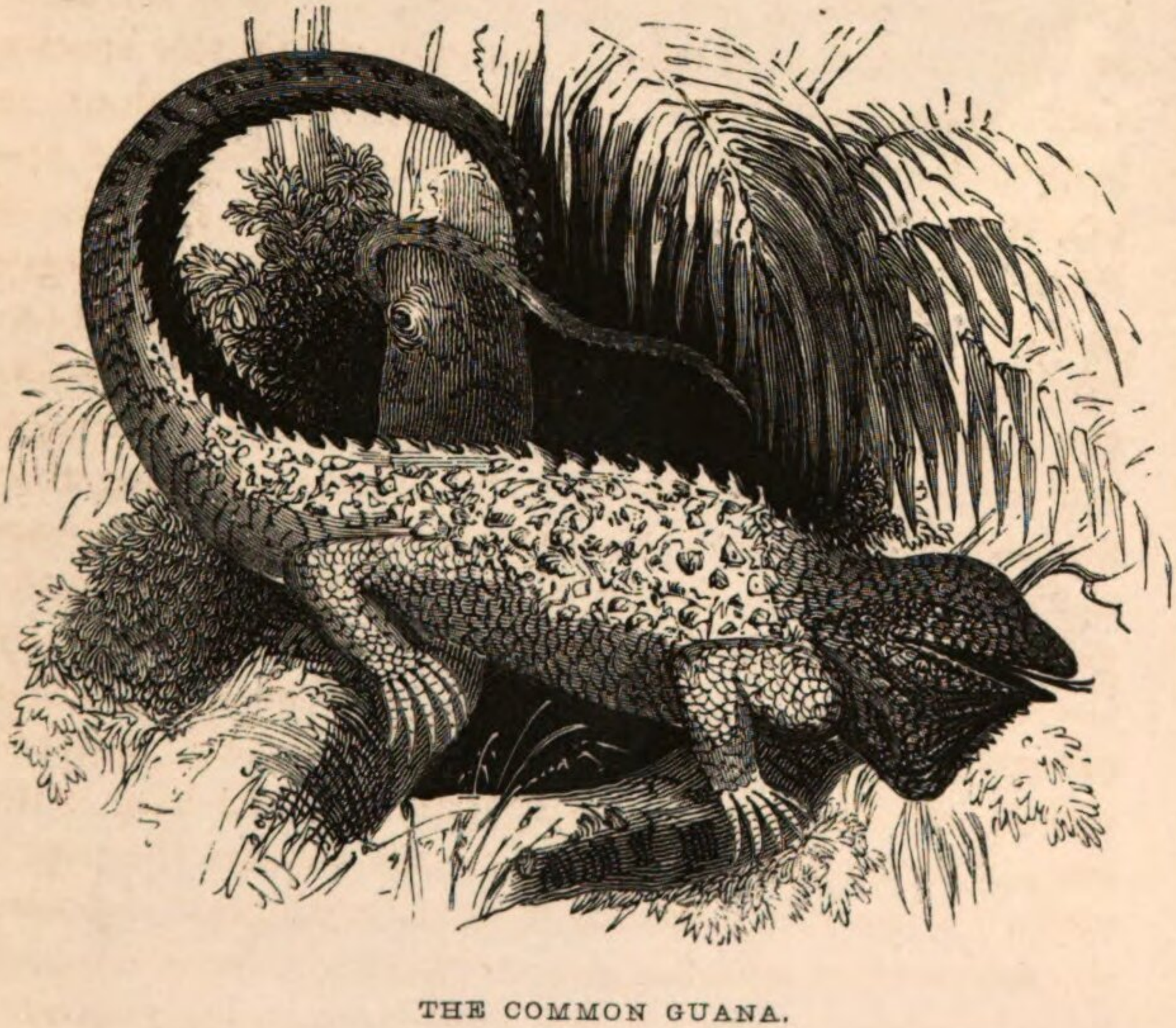
They not only frequent salt rivers near the sea, but streams of fresh water in the upper parts of the country and in lakes of salt and fresh water, on the banks of which they lie lurking among the lofty reeds, to surprise cattle and other animals which may come within their reach. How dreadful it is when the monstrous enemy, lying in ambush, bursts from his concealment, and with all his immense muscular power and bloodthirsty rage, falls upon and devours his victim. Fit emblem of the tempter, who lies in wait to make the unsuspecting youth his victim; or of the cruel assassin who rushes from his concealment, and plunges the dagger, or pours the lead into the vitals of the object of his vengeance!

Alligators are not more terrible in their appearance than they are formidable and cruel in their nature. They neither spare man nor beast they are able to surprise; if possible, they instantly pull them under water, that, being dead, they may with greater facility destroy them.

As these creatures can only run or swim straightforward, they are less destructive than they would otherwise be. They remain in a torpid state from October to March.

COMMON GUANA.

THE length of the common guana is from four to five feet. The tail is long and round, the back serrated, and the crest denticulated. Individuals of this species vary much in colour, but the prevailing colour is brownish green. What gives it a very formidable appearance, it has under the chin a pouch capable of being greatly enlarged. It feeds on insects and vegetables. Though it is frightful to look upon, it is exceedingly gentle and harmless. It is striking in nature, that there are some creatures lovely to the eye, which, in their dispositions and habits, are dangerous and destructive; and others repulsive in their appearance, which have the innocence of the lamb and the gentleness of the dove. Such is the lizard known by the name of the *common guana*. However, when this otherwise harmless creature is agitated and irritated either by fear, or anger, its eyes seem flashing with fire; it hisses like a serpent, greatly inflates the pouch under its throat, it lashes about its tail with great violence, the scales upon its back rise erect, and its head, covered with tubercles, it raises in a most threatening attitude. We can scarcely conceive any creature to look more dreadful or forbidding. This reminds us in some measure of the remarkable change produced upon the human countenance, when under the influence of the



THE COMMON GUANA.

excitement of violent passion; while before this excitement it resembles the serene sky, when under its influence, it is like the sky in a thunder-storm covered with dark clouds, occasionally exhibiting the lightning's flash.

Its usual places of habitation and retreat are the cleffs of rocks or the hollows of trees. Though it is not commonly a tenant of the watery element, yet, in cases of danger, it will plunge itself beneath the surface, and there remain some time concealed. It shows great agility in its motions; it climbs trees with astonishing ease, and with great quickness it will reach the loftiest branches; it will fold its body with the branches, and thus hide itself, watching in secure ambush. About two months after winter, the females leave the woods and proceed to the sea-shore to lay their eggs among the sand, which are in number from thirteen to twenty-five; they are very small in proportion to the size of the animal, being a little longer, and about the same thickness as pigeons' eggs.

The guana lacerta is killed with great difficulty by blows, or even by wounds inflicted by firearms; but how surprising it is, that it dies almost in a moment if a straw is put up its nostrils.

THISTLE.

דרדר, DARDAR. *Round.*

GEN. III. 18.—"*Thorns also and thistles shall it bring forth to thee; and thou shalt eat the herb of the field.*"

CARDUUS, or thistle, is a genus of the *polygamia æqualis* order, belonging to the *syngenesia* class of plants. Of this genus there are twenty-six species, ten of which are natives of Britain, and being troublesome weeds and well known, require no description. Tournefort, the celebrated naturalist, even mentions eighty kinds of thistles. Some few of the exotic kinds are propagated in gardens for the sake of variety; having neither beauty or any other property to recommend them.

Thus thistles are a fit emblem of wicked men, useless in themselves, unseemly to look upon, and injurious to others. As it is dangerous to touch the thistle, so it is dangerous to come in contact with the wicked. The removal of thistles is beneficial; they are unseemly in the lawn or the shrubbery. It is a blessing to society, to families, and to the church of Christ, when wicked men, when moral thistles are removed. Thistles, when cut down and lying in withered heaps, are only fit to be cast into the fire to be consumed. So it is, alas! with the wicked at death, only

THE THISTLE.

fit to be gathered in bundles by the angels, and cast into the burning lake !

The thistle, in the original Hebrew, is called *dardar*, signifying *round*, and probably so named from its round form, and being surrounded on all sides with a *circle* of prickles ; or from its seeds being encircled in a downy sphere on which it easily rolls. The Greek word, in the Septuagint, and in the New Testament, is *tribulus*, and which is rendered in Heb. vi. 8, *briers*. Diosconides mentions two kinds: one is named *terrestrial*, because it extends its lesser branches near the surface of the ground ; it has along its leaves stiff and hard thorns. The second kind is called the *aquatic*, which is common enough in the waters.

In Job, xxxi. 40, there is a thistle mentioned ; "Let thistles grow instead of wheat, and cockle instead of barley." The word in the original is *baseh*. Many learned critics think this should be rendered *nightshade ;* a plant very common in Egypt, Palestine, and the East. If this be the plant, it is probably that species, says Mr. Good, which is essentially denominated *hoary-nightshade*. In other parts of the Bible, *baseh* is taken to denote weeds which are of a noxious nature, but which have a *fetid smell*. Thus, in every respect an object, like the wicked, worthy of aversion.

SHITTIM-WOOD.

שטים, SHITTIM. *To decline, or turn aside.*

EXOD. XXV. 10.—"*And they shall make an ark of shittim-wood: two cubits and a half shall be the length thereof, and a cubit and a half the breadth thereof, and a cubit and a half the height thereof.*"

INTERPRETERS are not exactly agreed what species of wood the *shittim* is. The writers of the Septuagint translation give the quality of the wood as the meaning of *shittim*, instead of any particular definite name. They render it *incorruptible wood*.

We receive the following account of the shittim-wood from Jerome. It grows in the deserts of Arabia, and resembles white-thorn in its colour and leaves. It is of such a size, as to furnish large planks. The wood is hard, tough, smooth, and extremely beautiful. It is the opinion of some that this wood is the *black acacia*, because this is the tree which grows most abundantly in the deserts of Arabia, and which, in its properties, exactly corresponds with the description given of the shittim-wood in the Sacred Writings.

We may submit some account of the acacia, as probably being the shittim-wood. The *acacia vera*, or *true acacia*, grows abundantly in Upper Egypt, in places at a considerable distance from the Red Sea; also in the mountains of Sinai, not far from the Red

SHITTIM-WOOD.

Sea, and in the deserts. It is about the size of a mulberry-tree. The spreading branches and larger limbs of the tree are armed with thorns, which grow three together. The bark is rough; the leaves are oblong and stand opposite to each other; the flowers are generally of a white yellow; the fruit resembles the bean, and is contained in pods like those of the lupin.

Dr. Shaw says, that the acacia-tree being by much the largest and the most common tree in Arabia Petræa, we have some reason to conjecture, that the *shittim-wood* was the wood of the acacia; especially as its flowers are of an excellent fragrance, for the *shittah-tree* is, in Isaiah, xli. 19, joined with the myrtle and other fragrant shrubs. On incision with an axe, the gum Arabic proceeds from this tree. This gum chiefly comes from Arabia Petræa, where these trees are most numerous; but it is more or less the tree of all deserts, from the northernmost part of Arabia to the extremity of Ethiopia; and its leaves are the only food for camels in these desert parts.

The shittim-wood was much used by Moses in rearing the tabernacle, and in the formation and provision of its furniture. For this purpose it was necessary to have wood of agreeable fragrance, and of the most durable properties. Figuratively, it might denote the excellency and duration of Christ's humanity, and also his church, which shall remain for ever.

BUFFALO, OR WILD BULL.

תאו, THAO. *Denoting the cry of the animal.*

PSALM, XXII. 12.—"*Many bulls have compassed me: strong bulls of Bashan have beset me round.*"

THERE is a considerable resemblance betwixt the buffalo and common ox in its general form. It differs from this animal in its horns, and in some particulars in its internal structure. It is larger than the ox; the head is also bigger in proportion, the forehead higher, and the muzzle longer. The general colour of the animal is blackish, except the forehead and the tail, which are of a dusky white. The hunch is occasioned by the bones that form the withers being continued to a greater length than in most other animals. The tail is more slender than that of the ox.

Everything connected with the form and appearance of the buffalo indicates that it is an animal of very remarkable strength. For example, the thickness of the trunk, the largeness of the limbs, and prominence of muscles, all bespeak the strength of the buffalo. Besides, the size of the head, and its very small eyes, deeply seated in their round sockets, give it a very stern, wild, and forbidding aspect.

The buffalo is originally a native of the warmer parts of Judea and Africa, and is merely one of the introduced quadrupeds of Europe. As early as the

THE BUFFALO, OR WILD BULL.

seventh century it was brought into Italy, and is still reared in the Pontine Marshes, and in the *Maremma* of Sienna.

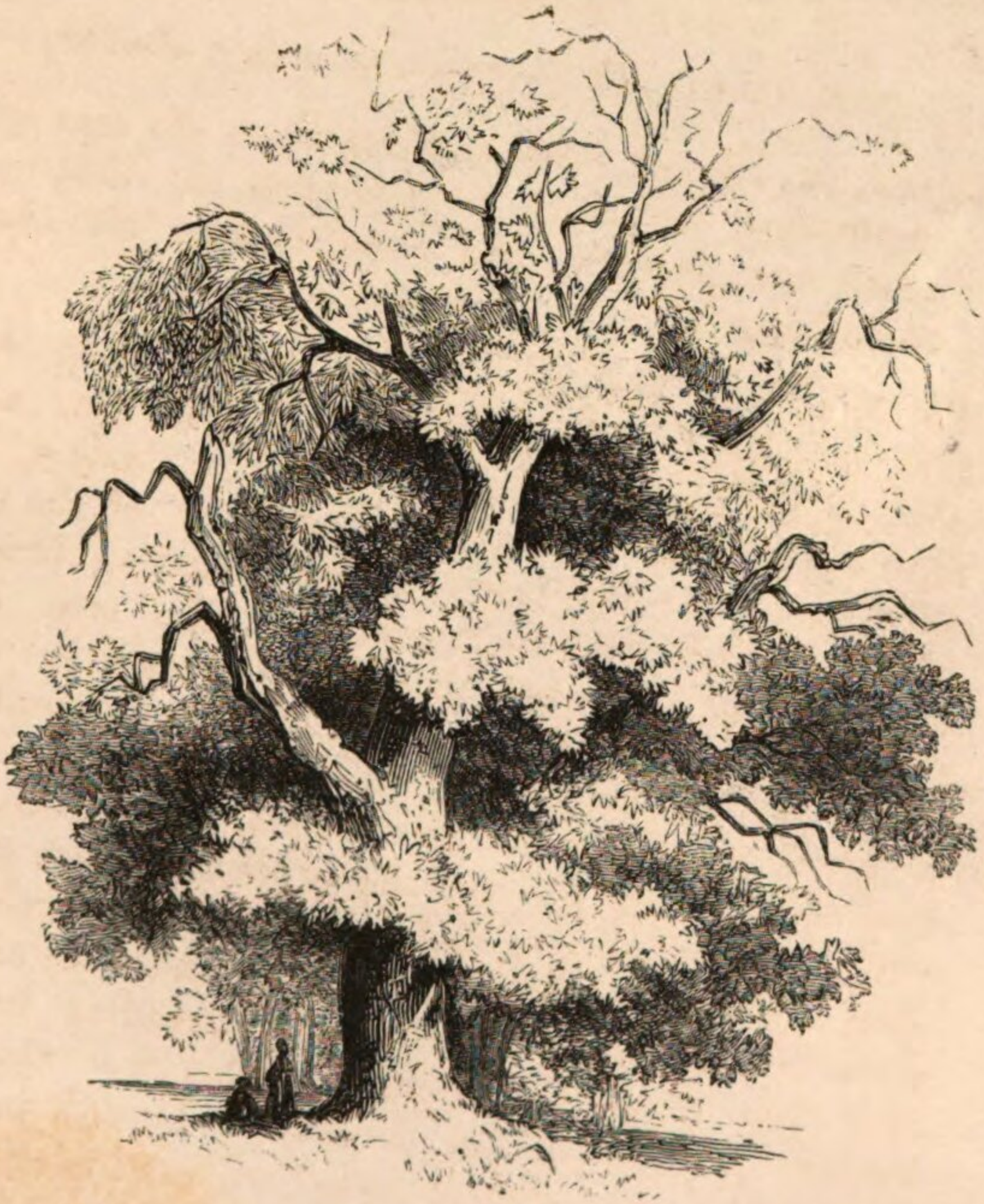
The navigators who completed the voyage to the Pacific Ocean, which was begun by the celebrated and lamented Captain Cook, relate a very singular circumstance repecting buffaloes. They procured eight of them at Pulo Condore; these were to be conducted to the ship by ropes put through their nostrils and round their horns. As soon as they came within sight of the ship's crew, they became quite furious; some of them, in their paroxysm of rage, actually tore out the cartilage of their nostrils and set themselves at liberty; and others broke down the shrubs to which it had been found necessary to fasten them. What could not be effected by force was accomplished by stratagem. Some children, whom the animals suffered to approach them, completely succeeded by their little gentle arts in appeasing their rage. They brought them to the beach, and the children actually got ropes twisted round their legs, which enabled the men to throw them down, and ultimately to convey them safely into the ship. They had only been a very little while on board, when they became perfectly gentle. As St. James says, (chap. iii. 7,) "Every kind of beasts and of birds is tame; (verse 8;) but the tongue can no man tame."

ELM-TREE.

אלה, ALAH. *To interpose, as with a shadow.*

HOSEA, IV. 13.—"*They sacrifice upon the tops of the mountains, and burn incense upon the hills, under oaks, and poplars, and elms, because the shadow thereof is good.*"

THE ULMUS, or *elm*, is only mentioned once in Scripture, namely, in Hosea, iv. 13. The Hebrew name, *alah*, signifying "to interpose with a shadow," is a most appropriate and correct description of the shade afforded by the umbrageous, wide-spreading branches of that well-known noble and beautiful tree. It is very striking to observe, that the idolatrous use which the corrupted Israelites made of this tree is mentioned by the inspired prophet, in connexion with the shadow which it so pre-eminently afforded. It is surprising how very remote the periods of distant past ages in which prevailed the sinful practice of worshipping idols in groves, on high places, and under the shade of trees remarkable for their wide-spreading branches and their dense rich foliage. This was the well-known practice of the idolatrous Druids in Great Britain at a very ancient period of our history: their temples were without roofs; they consisted of several circles of huge stones, and the whole surrounded by stately oak-trees, the branches of which, meeting in



THE ELM-TREE.

the centre, formed a most agreeable natural verdant canopy.

The ELM is a genus of the *digynia* order, belonging to the *pentandria* class of plants. There are six species, of which the most remarkable are the *campestris*, which is common in the north-west counties of England; the *scaber*, or *witch-hazel*, which grows naturally in some of the northern counties of England. When long bows were in use in the warfare of past times, many of them were made of the boughs of this tree. There is the *sativa*, commonly called the *English-elm*, though it was originally imported from Germany.

The flower of the elm is of the form of a bell, having only one leaf, with a great number of stamina. The pistil rises from the bottom of the flower, and becomes a heart-shaped fruit containing the seed. This is one of the most useful trees, and much used in making coffins for the ashes of the dead. The bark, leaves, and juice possess medicinal qualities. It is very productive. In a century, one elm will produce thirty-three million grains of seed. An elm of twenty feet height in its stock, has been found to contain fifteen thousand, eight hundred and forty millions distinct seeds.

WORMWOOD.

לענה, LAANAH. *To detest.*

PROV. v. 4.—"*But her end is bitter as wormwood, sharp as a two-edged sword.*"

ARTEMISIA, or wormwood, is a genus of the *polygamia* superfluous order, belonging to the *syngenesia* class of plants. It hath an indeterminate stalk, branching out into many small shoots, with spikes of naked flowers hanging downward; the leaves are hoary and bitter. Of this plant there are thirty-two species, one of which, the common *wormwood*, often grows by the wayside, and is also planted in gardens for common use. Great variety of sea *wormwoods* are found in the salt-marshes of England, and sold in the markets for the true Roman *wormwood*, though they differ greatly.

The name *Artemisia*, given to wormwood, is of classical and legendary antiquity. In the opinion of some, it has received this name from Artemisia, wife of Mausolus, King of Caria, who brought this plant into use. Before, it was called *Parthenia;* the virgin goddess being said to have given name to it.

The following are the most remarkable species of which the genus consists:

The *vulgaris*, or common mugwort, grows naturally on banks and by the side of footpaths, in many parts of Britain. It is seldom admitted into gardens, where,

WORMWOOD.

in consequence of its fast-creeping roots, it would prove a very troublesome weed.

The *pontica*, or pontic-wormwood, commonly called *Roman wormwood.* is a low herbaceous plant, whose stalks die in autumn, and new ones appear in the spring. These are garnished with leaves finely divided, and woolly underneath; and the upper part of the stalks are furnished with globular flowers, which nod on one side, having naked receptacles.

Another species is the southernwood, or *abrotanum*, which is generally cultivated in gardens on account of its agreeable scent. It is a low shrub, seldom rising more than three or four feet high, sending out laterally shrubby branches, growing erect, garnished with five bristly leaves, having an agreeable scent when bruised. The flowers are produced in spikes from the extremity of the branches; but in England, seldom open.

Idolatry, profaneness, and other descriptions of wickedness, are compared to wormwood, in Scripture. (Deut. xxiv. 18; Heb. xii. 15.) There never was a sin, or a vicious course, the consequence of which was not bitterness. The wretched harlot is particularly mentioned as illustrating the sad truth. The history of man shows, that the sin of uncleanness leads above all others to shame, misery, and perdition!

BRIER.

חדק, CHEDEK. *Sharp, acute.*

ISAIAH, LV. 13.—"*Instead of the brier shall come up the myrtle-tree.*"

MAN, without grace and the culture of religion, is compared in Scripture to thorns, brambles, and briers. In this state he is, comparatively speaking, useless; and, under the control of his unsubdued passions, he is, like those plants armed with prickles, absolutely injurious. When he becomes the subject of grace, his nature is as really changed and improved as if the thorn were changed into the fir-tree, and the noxious brier changed into the comely, umbrageous, verdant, and odoriferous myrtle. Let us therefore learn to admire the suitableness, the simplicity, and the poetical force of Scriptural figures employed in illustration of divine truth and of solemn realities.

Our translators give names *thorns* and *briers* indiscriminately to a variety of useless and offensive plants, to which these names most justly apply. The botanical history of Palestine, and other eastern countries, furnishes a far greater variety of plants belonging to the class of thorns and briers, than is furnished by the botanical records of more northern European nations.

It is profitable, as well as interesting, to consider the moral and spiritual application of *briers* in the

THE BRIER.

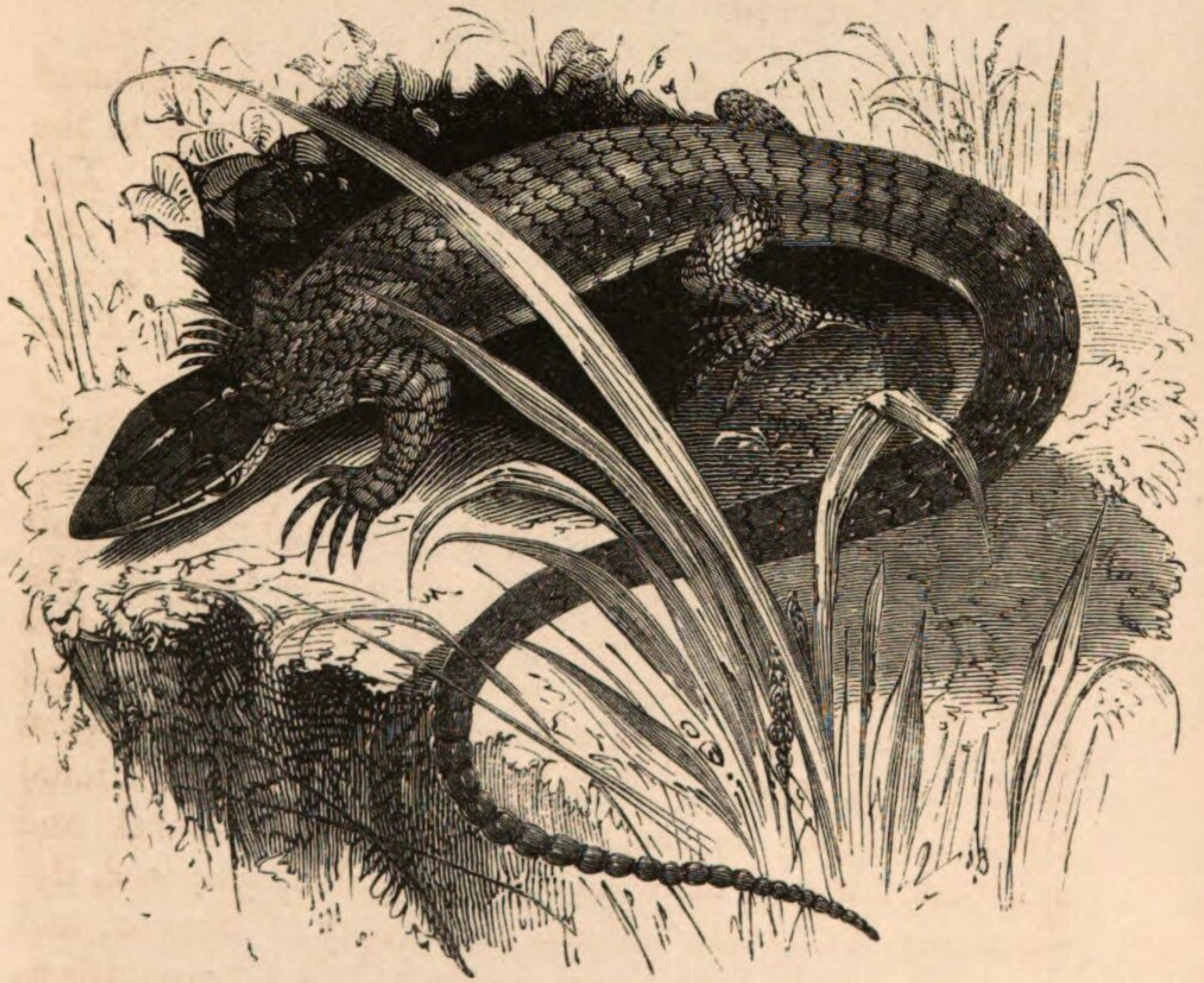
sacred volume. The Assyrian army that vexed and molested the children of Israel are compared to briers; (Isaiah, x. 17;) "And the light of Israel shall be for a fire, and his Holy ONE for a flame; and it shall burn his thorns and his briers one day." Thus showing that God shall ultimately and finally destroy those Assyrian hosts which vexed and afflicted them. Wicked, mischievous, and hurtful persons are compared to *briers* by the prophet Ezekiel; (chap. xxviii. 24;) "And there shall be no more a pricking *brier* unto the children of Israel, nor any grieving thorn of all that are round about them." An inspired apostle compares the vile corruptions of the heart, which are the natural and luxuriant production of the unregenerated soul, to thorns and briers. (Heb. vi. 8.) "But that which beareth thorns and briers is rejected, and is nigh unto cursing, whose end is to be burned." If we consider the injury which the corruptions and passions of the human heart have inflicted, and are still entailing upon our race, how justly they deserve to be called thorns and briers! They have torn families, and communities, and nations asunder. Where is the part of the world, where is the tribe of human beings, they have not torn and lacerated? They are not to be found!

LIZARD, NIMBLE.

LACERTA AGILIS, or the *nimble lizard*, is a species found in Britain. Its length, from the tip of the nose to the end of the tail, is about six inches and a half. The upper part of the head is light brown, and the back and tail are variously striped and spotted with light brown, black, white, and dark brown; the under part of the body is of a dirty white colour.

This beautiful little creature, found in almost every part of the temperate regions of Europe, has this peculiarity, that it is the most gentle and inoffensive of all the lizard family. Though fond of basking in the sun's rays, it cannot bear excessive heat, and therefore in the hottest weather it seeks for shelter. Natural instinct leads irrational animals to seek shelter when liable to danger; but what multitudes of rational beings, instead of seeking shelter from moral and spiritual dangers to which they are daily exposed, deliberately avoid the offered protection of heaven, and wantonly rush into those overwhelming temptations which cannot fail to issue in their perdition!

The *nimble lizard* may sometimes be seen in beautiful spring weather, stretched out on a sloping green bank, or extending itself on a wall exposed to the sun. The warmth greatly revives it; and it shows the great delight which it enjoys under the influence of the



LIZARD, NIMBLE.

sun, by the gentle agitation of its slender tail, and by the animating pleasure which sparkles in its lively brilliant eyes. As it subsists on animals of a very minute size, if any of them come within its reach, it will dart upon them with astonishing rapidity: and if any danger is near, with equal quickness it will escape into some safe place of retreat. This furnishes a good moral lesson to us, who have souls of inconceivable value to be saved or lost. We should, without a moment's delay, escape to Jesus, whose bosom of mercy is open to receive us, and where we shall be perfectly secure from the wrath to come!

It is on account of its very rapid movements, which are most remarkable in warm climates, that it receives the well-merited name of the *nimble lizard*.

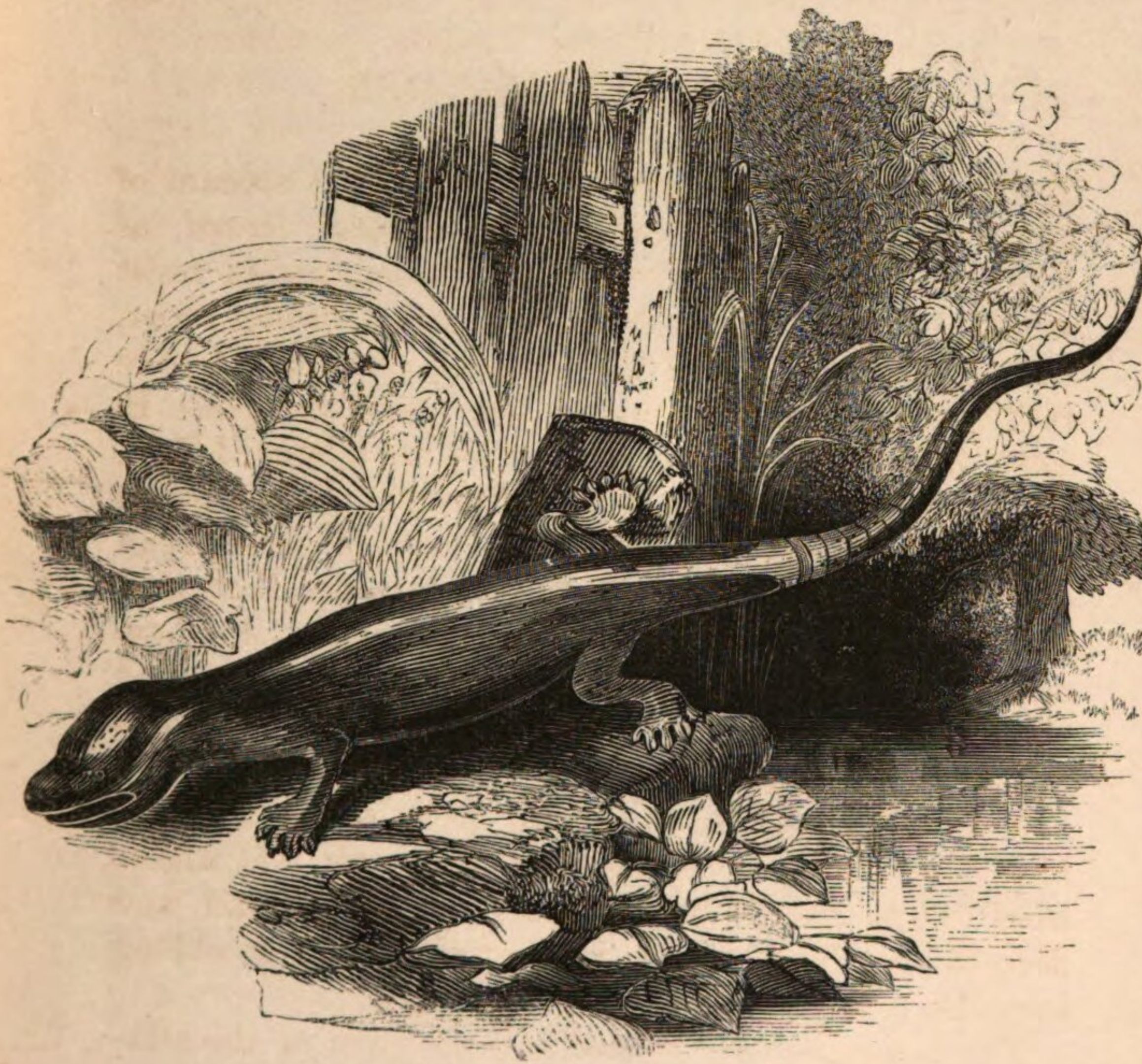
In May it deposits its eggs, which are very small and spherical, in some warm situation, often at the bottom of a wall fronting the south, where they are hatched by the heat of the sun. These lizards can remain a long time alive without food; some have been kept in a bottle without nourishment for six months. They change their skins annually, and remain all winter in a torpid state.

LIZARD, SALAMANDER.

THERE has been for ages a most fabulous account of the LACERTA SALAMANDRA, or *salamander lizard*, as being able actually to live in the flames, and to resist what even the hardest stones and metals cannot resist, namely, the violence of the burning element. I have read that this fabulous account has actually a place in some philosophical transactions, as an admitted fact, the truth of which was not to be disputed. This opinion too has obtained a place in the poetical effusions of eminent men, and it is with great reluctance that men have at last given up an unfounded notion, and now acknowledge that the Salamander is not more favoured than other animals, in being able to resist the destroying power of the fiery element.

The salamander is in length from seven to eight inches, though in some cases much longer. It differs from other lizards by its short cylindrical tail and deep shining black colour, variegated with large oblong irregular patches of bright orange-yellow.

The description which the ancients gave of the salamander is truly striking. They said that it owed its existence to the purest of elements, that it was the "daughter of fire," and that its body was formed of ice. Wonderful difference betwixt the mother and the daughter! Before the lights of science and the gospel



LIZARD, SALAMANDER.

dispelled the dark mists of mysterious and credulous superstition, the salamander was not only considered as possessing the power of resisting fire, but in addition to this, of actually extinguishing it.

The places which these lizards prefer for their retreat and their residence are shady woods, and the banks of unfrequented rivulets. In winter they conceal themselves in the hollows of roots of old trees, in subterraneous recesses, or the cavities of ancient walls. In such situations as these, several of them have been discovered collected and twisted together. They can live in water as well as on land. Their food consists principally of insects, snails, and worms.

When the salamander is at rest, it often rolls itself into a spiral form like a serpent; when it is handled, it instantly covers itself with a milky fluid; if struck, it erects its tail, and becomes for some time altogether motionless; it is very tenacious of life, and is difficult to kill; but if it is wetted with vinegar, or sprinkled with salt finely powdered, it is seized with convulsion and soon expires. It is a native of Germany, France, and Italy.

SWINE, ETHIOPIAN HOG.

MATT. VII. 6.—"*Give not that which is holy unto the dogs, neither cast ye your pearls before swine, lest they trample them under their feet, and turn again and rend you.*"

IN the preceding verse, which forms a part of our blessed Saviour's inimitable sermon on the Mount, certain classes of depraved men are placed before us in a most degraded and humiliating light. They are compared to *dogs*, intimating their grovelling sensuality; and they are compared to *swine*, intimating their habitual wallowing in the filthy mire of fleshly lusts. However much man is raised above the brutal tribes by the transcendant gift of reason, when he lends a deaf ear to the voice of reason and the unerring dictates of the gospel, and yields himself up to vile and fleshly appetites, he sinks below the *beast* as much as his reason had raised him above it. Affecting truth, a sensual voluptuary is more degraded in the scale of being than an *Ethiopian hog!*

SUS ETHIOPICUS, or Ethiopian hog, is provided with small tusks in the lower jaw, and very large ones in the upper, which, in old boars, bend toward the forehead in the form of a semicircle. It has no fore-teeth, these not being necessary for its habits in seeking or using its ordinary sustenance; the nose is broad, de-

THE ETHIOPIAN HOG.

pressed, that is, bending downwards, and almost as hard as horn; its head is large and broad; beneath each eye there is a hollow formed of loose skin, very soft and wrinkled; under these there is a great lobe, or wattle, lying almost horizontal, broad, flat, and rounded at the end, placed so as to intercept the view of anything below the animal. This certainly must give it a very odd and singular appearance. Is it not likely that the Creator has given it this provision to defend its eyes from injury, while digging in the earth with its snout for food? The mouth is small; the skin dusky; the bristles are disposed in *fasciculi*, or small bunches of five each; these are longest between the ears and on the beginning of the back, but in other parts of the body are thinly dispersed: the ears are large and sharp-pointed: the tail is slender and flat, not reaching lower than the thighs, and is covered with hair in separate little patches, which give it a very singular appearance: the body is longer and the feet shorter than in the common swine; in a domesticated state the length is about four feet nine inches, but in a wild state it grows to an enormous size. These animals inhabit the hottest parts of Africa, from Senegal to Congo, and are remarkably fierce and swift.

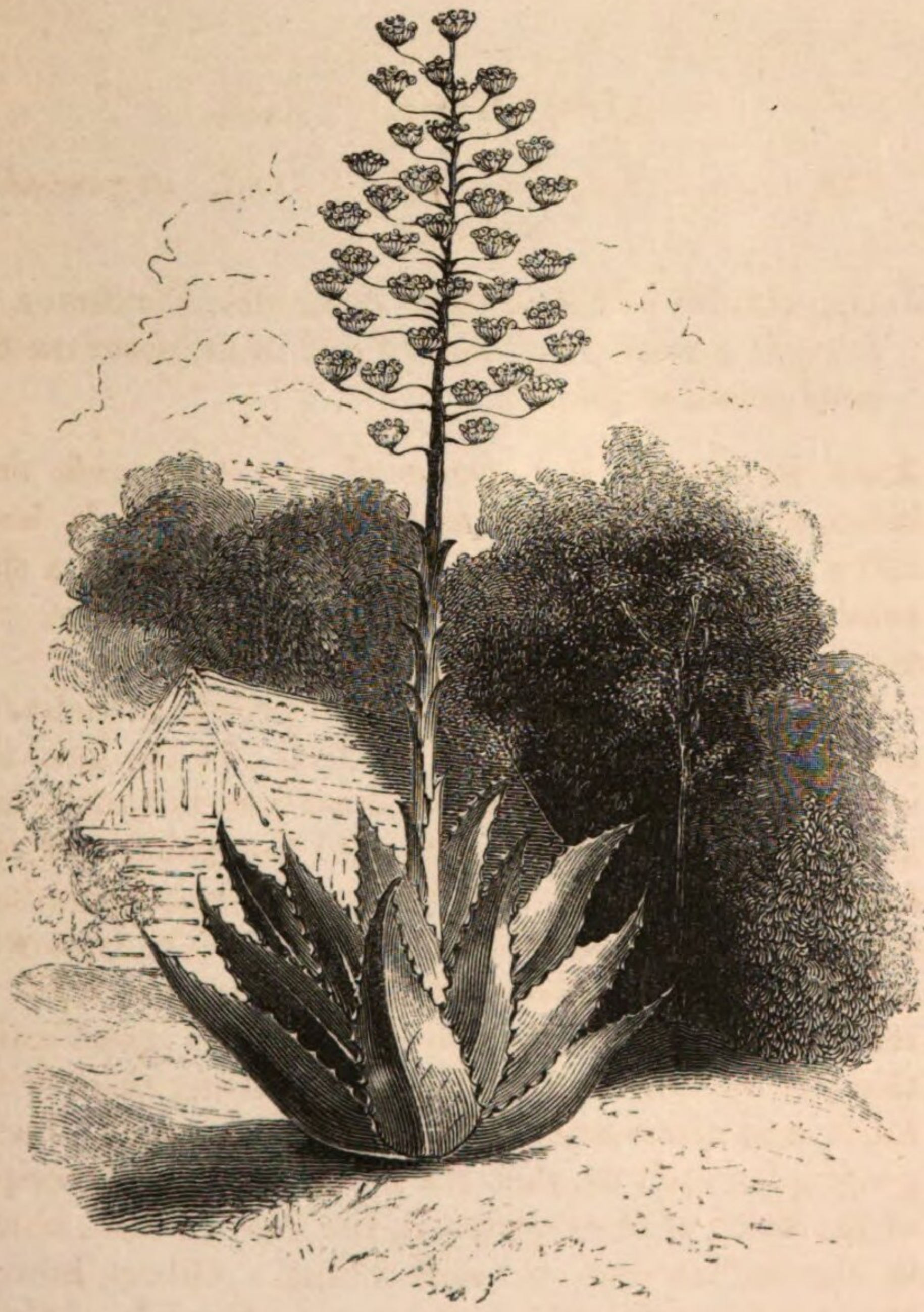
ALOE-WOOD TREE.

עלר, OLAR. *A Syriac word; "exalt," its probable meaning.*

JOHN, xix. 39.—"*And there came also Nicodemus, and brought a mixture of myrrh and aloes, about an hundred pound weight.*"

ALOE, in botany, is a genus of the *monogynia* order, belonging to the *hexandria* class of plants. It has no calyx; the corolla is oblong, and formed of a single petal, divided into six segments at the extremity. Botanical writers enumerate twenty-three species.

The most famous is that which grows in India. It rises in height from eight to ten feet. At the head there is a large bundle of leaves, thick and indented, broad at bottom, but narrowing toward the point, and about four feet in length. The blossom is red, intermingled with yellow, and double like a pink. The fruit which comes from this blossom is like a large pea, white and red. The juice of the leaves is held in great estimation; it is drawn from them by cutting them with a knife, and afterwards collecting it in bottles. Eastern geographers tell us, that the most excellent description of the wood of aloes grows in the Isle of Senf, situated in the Indian Sea, towards China. Others, however, are of opinion that the best grows in the Isle of Comar, or at Cape Comorin; and that it was of this kind a



THE ALOE-WOOD TREE.

certain King of India made a present, weighing ten quintals, to Nouschirvan, which, when applied to the fire, melted and burned like wax. This wood is also brought from the islands of Sumatra and Ceylon. In 1686, the Siamese ambassadors to the court of France brought a present of it from their sovereign. Indeed, they were the first in Europe who communicated any consistent account of this tree. This tree is also found in Judea: it is said to be about the form and height of the olive-tree: it is very singular, the trunk is of three colours, and contains three sorts of wood; the heart, or finest part, is called *tambac*, or *calambac*, and is used to perfume dresses and apartments. It is very precious, and is considered more valuable than its weight in gold. Its medicinal qualities are considerable, being esteemed a sovereign cordial against fainting-fits and other nervous disorders.

There is a gum extracted from this tree, very bitter in its taste, used for medicinal purposes, and anciently for embalming of dead bodies. Hence we are informed that Nicodemus bought myrrh and aloes for the purpose of embalming the body of Jesus.

Some think that it was aloe-wood Moses cast into the waters of Marah, by which they were made sweet.

CHESTNUT-TREE.

ערמון, ORMUN. *Bare, or naked.*

GEN. XXX. 37.—"*And Jacob took him rods of green poplar, and of the hazel, and chestnut-tree; and peeled white strakes in them, and made the white appear which was in the rods.*"

THIS tree is mentioned in one other place in the sacred scriptures, namely, (Ezek. xxxi. 8,) speaking of the Assyrian monarchy and power under the figure of a noble cedar-tree, the prophet says, "The cedars in the garden of God would not hide him; the fir-trees were not like his boughs, and the chestnut-trees were not like his branches; nor any tree in the garden of God was like unto him in beauty." As the chestnut-tree is remarkable among trees for its size, magnificence, loftiness of height, the great number and wide-spreading extent of its branches, and the striking verdure of its leaves, so the Assyrian empire and its proud and powerful monarch, remarkable among all other monarchies and princes, are likened to a chestnut-tree for their glory, power and influence.

The FAGUS, including the *beech* and the *chestnut-tree*, is a genus of the *polyandria* order, belonging to the *monœcia* class of plants. There are three species.

The first is the *sylvaticus*, or beech-tree. It is well known in many parts of England, and is found to

THE CHESTNUT-TREE.

prosper in thin chalky soil, where other descriptions of trees could scarcely subsist.

The second species is the *castanea*, or chestnut-tree. The trunk is large and upright, growing to the height of forty or fifty feet, branching regularly round into a fine regular head, and garnished with handsome spear-shaped serrated leaves, with flowers in long amentums. These are succeeded by strong prickly fruit, containing two or more nuts.

The chestnut-tree sometimes grows literally to an immense size. The largest in the known world are those which grow upon Mount Ætna, in Sicily. At Tortworth, in Gloucestershire, there was a chestnut-tree fifty-two feet round its trunk. Whether it is remaining to the present time I cannot say. It fixed the boundary of the manor, and at the beginning of this century it is calculated it was a thousand years old. Even in the year 1150 it was then so remarkable, that it was called the Great Chestnut of Tortworth. Though the chestnut, as an ornamental tree, may be considered inferior to the oak and beech, yet it has a sufficiency of grandeur and umbrageous elegance as strongly to recommend it to the attention of the planter in laying out ornamental woods in the vicinity of the stately mansions of the great.

The noblest chestnut-trees I have seen are in the island of the lake of Monteith, North Britain, under the branches of which Mary, the unfortunate Queen of Scots, often sat in her youthful days.

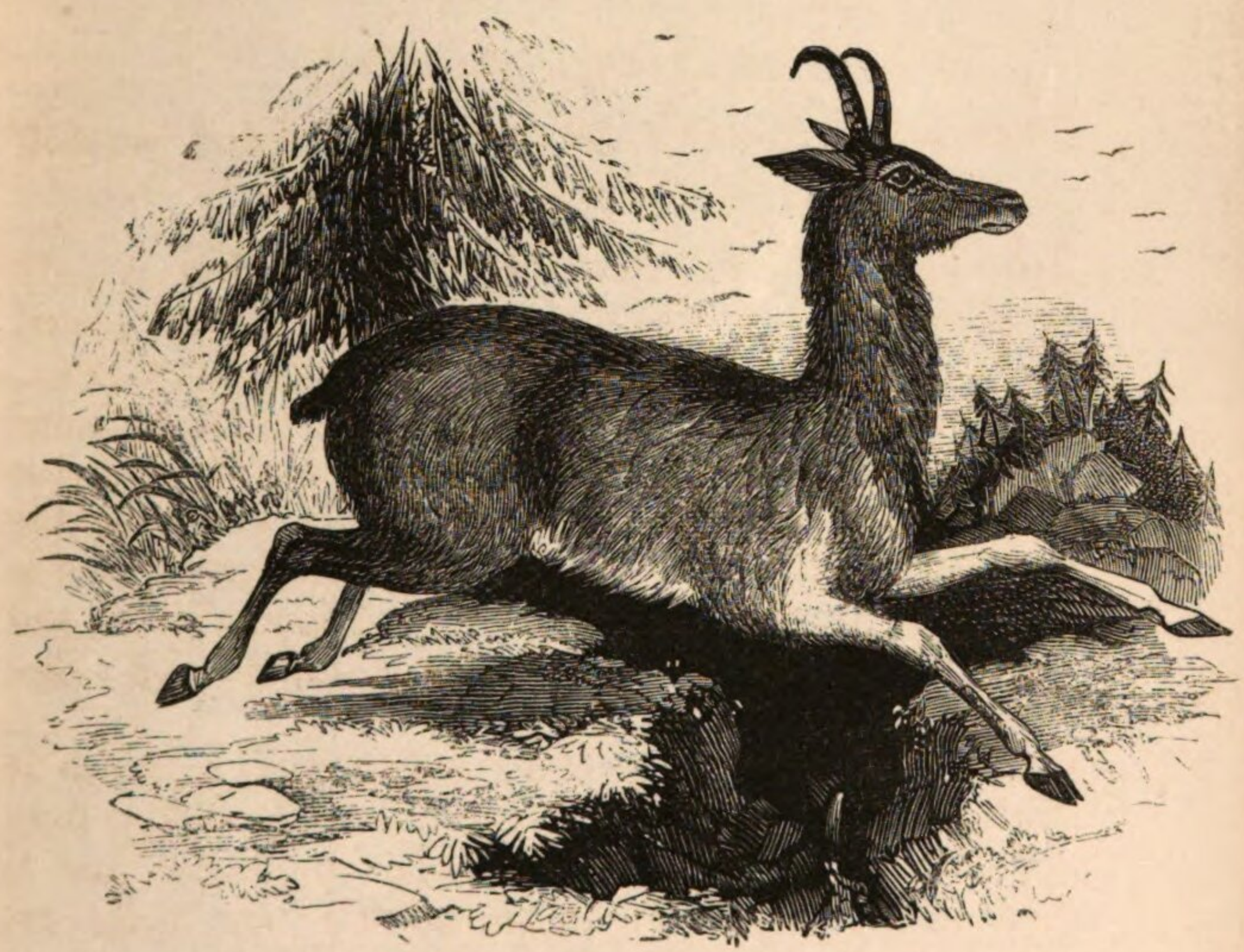
CHAMOIS.

זמר, ZAMOR. *To browse.*

DEUT. XIV. 4, 5.—"*These are the beasts which ye shall eat, the wild ox and the chamois.*"

THE name of this interesting species of deer is only mentioned once in Scripture, namely, the passage quoted above. Its scientific name is ANTELOPE RUPICAPRA, a name taken from the habits of the animal, as being often among rocks, where it moves about with the most amazing ease and agility. This is among the few antelope tribes that is a native of Europe, and is met with among the Alps of Switzerland, Savoy, and Italy; in the Pyrenean mountains and the hilly districts of Crete.

It is about the size of a common goat, to which it bears a very considerable resemblance. It differs from the goat in the following respects: its under jaw is less prominent; its limbs are thicker; the horns are more slender and upright; and the beard is wanting. A singular circumstance is this, at the base of each horn behind there is an orifice, or opening, the reason or object of which it is difficult to ascertain. Some think it is to assist its breathing; but as there is no communication at all betwixt this opening and its lungs, I humbly think it is more likely for the purpose of rendering its hearing more acute. The horns of the



THE CHAMOIS.

female are smaller than those of the male, and less bent at the tip. The face is whitish yellow, with two stripes of black on each side. The eyes are round and sparkling. During summer the hair which covers the body is close and short, like that of the stag; during winter it is thicker and longer than that of the goat. The colour of the hair alters according to the seasons; in spring it is of a cinereous grey, in summer of a rufous brown, in autumn of a fawn-colour mixed with black, and in winter of a blackish brown.

All the cry of the chamois is a feeble bleat, by which the parent calls its young; but in cases of danger, and for the purpose of warning the rest of the flock, it has a hissing noise, which is heard at a considerable distance, the male uttering it more loudly and sharply than the female. Does not this remind us of the messengers of gospel truth? As affectionate parents, they utter for the benefit of those committed to their care a *warning* voice, that they may escape the wrath to come; and an *inviting* voice, that they may receive the blessings of a great salvation.

The chamois species are very particular in the choice of food. They feed on the best herbage, and they select the most delicate part of the plants, flowers, and tender buds. They have a particular fondness for the most aromatic mountain-herbs, especially the *carlini* and *genipi*. In winter they yield to the hard law of necessity; they scrape away the snow to get at the reindeer-moss, and browse on the saplings of pine and

fir. When they feed on succulent herbage they drink very little, and they ruminate during the intervals of feeding.

These animals are of a gentle disposition; they are vigilant and gregarious; they occupy the crags of mountains in flocks varying in number from four to a hundred; they live from twenty to thirty years; they prefer the morning and evening for their times of pasture, when the herbs are rendered more refreshing by the dewdrops which rest upon them. It is truly remarkable with what ease, and even seeming indifference, they run along the rocks, leaping from one to another, so as to defy the pursuit of dogs. And those precipices, which to other quadrupeds appear inaccessible, they will climb and descend with as much ease and comfort, as if they were bounding in their flight over a level plain. They can throw themselves down thirty feet of a rock, and alight on some small projecting fragment, just large enough to support their feet. Their limbs are peculiarly made for this arduous exercise, and their hind legs are so formed as to break the fall in alighting.

THE THYNE-TREE.

THYNE-TREE.

Θυινος, THUINOS. *To burn incense.*

REV. XVIII. 12.—"*The merchandise of gold, and silver, and precious stones, and all thyne-wood, and all manner of vessels of ivory.*"

THE THYNE, or *thya-tree*, rises with a strong woody trunk to the height of thirty feet or more. The marks of this tree are the following. When it is young the bark is smooth and of a dark brown colour; as the tree grows old it becomes cracked and less smooth. This reminds us of the change which is produced on the human frame by age. What a difference betwixt the lovely smoothness of the countenance of youth, and the wrinkles of the face produced by advanced years.

The branches of the thyne-tree are produced irregularly on every side, standing almost horizontally, and crossing each other nearly at right angles. It is only the younger branches which are garnished with leaves, and what is singular, these are placed over each other like the scales of a fish. The flowers burst forth in their beauty from the side of the young leaves.

The wood of this tree is hard, receives a fine polish, and is a valuable article of commerce. This was the case in ancient days. So highly did the heathens admire it, that they employed it in making doors for

their temples and images of their gods. Jackson, in his account of Morocco, says, that "besides producing the gum sandrac, the wood of the *thya* is invaluable, being somewhat like cedar, having a similar smell, and being impenetrable to the worm. The roofs of houses and the ceilings of rooms are made of this wood."

LENTILES.

עדשים, ODESHIM.*

GEN. XXV. 34.—"*Then Jacob gave Esau bread and pottage of lentiles; and he did eat and drink, and rose up, and went his way; thus Esau despised his birthright.*"

WHO can read this passage without being astonished at the folly and infatuation of Esau? To prefer a mess of pottage, the enjoyment of which was so transient, before a rich birthright, which would have ultimately put him in possession of great wealth, influence, and respectability, is an instance of wanton and heedless folly, scarcely to be equalled in the history of foolish man.

In 2 Sam. xvii. 27, 28, 29, lentiles are introduced to our notice, in connexion with a remarkable and affecting portion of the history of King David. When he was obliged to flee from Jerusalem, on account of

* Meaning uncertain.

LENTILES.

the unnatural rebellion of his execrable son Absalom, not even having time to make any commissariat arrangement for supplying the necessities of the small number of his people who remained faithful to his person and cause, good aged Barzillai remembered his royal master, and sent the following commodities, as some supply of his immediate and urgent wants. "And it came to pass, when David was come to Mahanaim, that Shobi, and Machir, and Barzillai the Gileadite of Rogelim, brought beds, and basons, and earthen vessels, and wheat, and barley, and flour, and parched corn, and beans, and lentiles, and parched pulse, for David, and for the people that were with him, to eat; for they said, The people is hungry, and weary, and thirsty, in the wilderness."

Lentiles are a sort of pulse. The lentiles of Egypt were much esteemed by the ancients. St. Austin makes mention of them in his writings, and says, "They grow abundantly in Egypt; are much used as a food there; and those of Alexandria are considered particularly valuable." Dr. Shaw says, "Beans, lentiles, kidney-beans, and garvancos are the chiefest of their pulse kind. Lentiles are dressed in the same manner as beans, dissolving easily into a mass, and making a pottage of a chocolate colour."

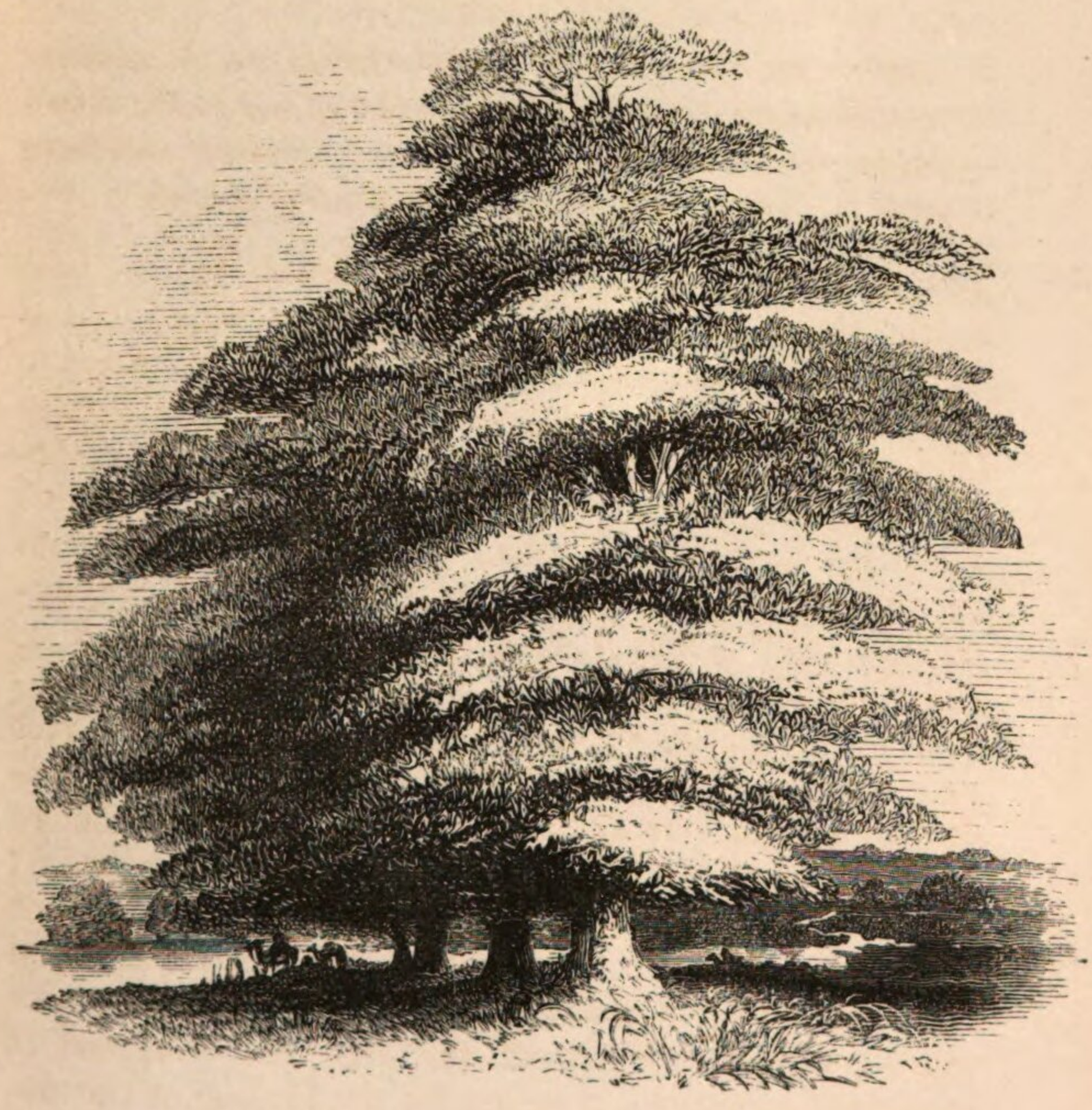
ALMUG-TREE.

אלמג, ALMUG.*

2 CHRON. IX. 11.—"*And the king made of the almug-tree, terraces to the house of the Lord, and to the king's palace, and harps and psalteries for singers; and there were none such seen before in the land of Judah.*"

THE *almug-tree* is generally considered to be that species which produces the gum Arabic; hence it is a tree of great value as connected with the extensive science of medicine. How very kind and benevolent in God, as the great God of providence, in forming plants and trees for so many purposes connected with the interest and happiness of man. Some are invested with such properties as to furnish man with wholesome, nutritious, and delicious food. Others are prepared to furnish medicinal substances of the most useful description, for mitigating or removing disease. How this fact proclaims the kindness and benignity of the Deity! It is on this account our divine Redeemer is presented before us in the word of truth under the figure of a tree, and as the tree of life. He is a tree having all excellent properties combined. This tree bears twelve kinds of fruit in exuberant clusters, for the nourishment of the saints; and the leaves of the tree are possessed of medicinal qualities; they are for the healing of the nations.

* Meaning uncertain.



THE ALMUG-TREE.

From the use which Solomon made of this tree, we may conclude that it is aromatic. The terraces of the temple and of his palace were formed of its wood, which, in the cool of the morning or evening, would no doubt exhale the most refreshing fragrance, and would add greatly to the enjoyment of those who sat or walked in these open terraces. The wood of this tree was also employed in the formation of musical instruments, used by the musicians in the sacred and magnificent worship of the temple, and also in the rich concerts of music which were performed in the presence of the most wealthy, and wise, and mighty king that ever filled an earthly throne.

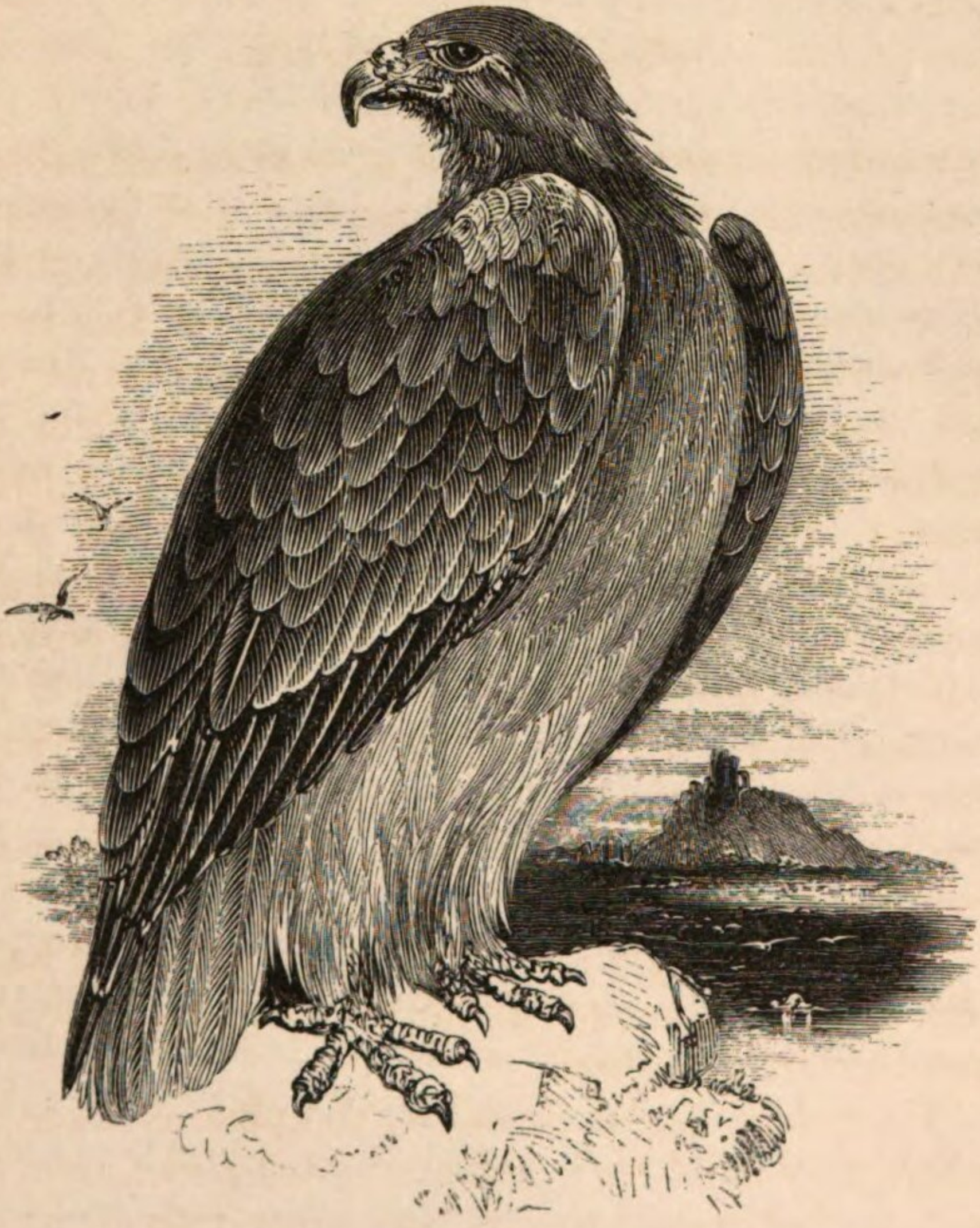
Josephus particularly describes this tree. He says, "The ships from Ophir brought precious stones and pine-trees, (that is, almug-trees,) which Solomon made use of for supporting his temple and his palace, as also for making musical instruments, the harps and psalteries of the Levites. But let none imagine that those pine-trees were like those which are now so named; but those we speak of were like the wood of the fig-tree, but whiter and more shining"

GOLDEN-EAGLE.

THE GOLDEN-EAGLE is a bird of very considerable size, measuring in length about three feet, and between the extremities of its extended wings seven feet and a half. How noble must be the appearance of this imperial bird, when flying in its stately majesty through the sky, and looking down with apparent disdain on all sublunary things. It weighs from twelve to fourteen pounds: the bill is deep blue, and the cere yellow: the prevailing colour in the head and neck is a dark brown, bordered with tawny; and the hind part of the head is of a bright rust colour: the legs are yellow and feathered to the toes; these are protected by scales: the claws are remarkably large, showing how formidable this bird must be to its prey; the middle claw is two inches in length.

The golden-eagle is a native of Europe, and has even been found in some of the more wild and mountainous parts of Great Britain.

The golden-eagles choose for the place of their abode, where they build their nests, elevated rocks, ruinous and solitary castles and towers, and other retired situations, secure from the annoyance and the visits of men. The nest differs from the generality of the nests of other birds: they are not hollow, but flat. Male and female unite their efforts in rearing their domestic abode, and gene-



THE GOLDEN-EAGLE

rally place it between two rocks, in a situation both dry and inaccessible. This reminds us of the highly figurative description which the inspired Isaiah gives of the complete security and defence of the righteous man. "He dwells on high, his place of defence is the munition of rocks. His bread shall be given him, and his water shall be sure."

It is said that the nest of the golden-eagle lasts him during all his lengthened life; and we all know that the length of the life of the eagle is proverbial. In form the nest resembles a floor; the basis consists of sticks about five or six feet in length, which are supported at each end, and these are covered with layers of rushes and heath.

The golden-eagles are exceedingly muscular; but their strength appears most conspicuous in their beak, their talons, and their wings. There is scarcely any quadruped able to stand before them. They have been known to strike a man dead with one flap of their wings.

They live to a great age; one that died at Vienna had been in confinement above a century. They have also this peculiarity, of bearing abstinence from food for a period of time which would destroy the life of the greatest number of animals.

GARLIC.

שׂוּם, SCHUM. *To place regularly.*

NUM. XI. 5.—"*We remembered the fish which we did eat in Egypt freely; the cucumbers, and the melons, and the leeks, and the onions, and the garlic.*"

THIS word *schum*, translated *garlic*, occurs only once in Scripture, namely, in the passage now quoted. Some, with little reason, have expressed doubts as to the plant intended. But as it is associated with onions and leeks, there can be but little doubt that the *garlic* is meant. The writers in the Talmud often mention the use of this plant among the Jews, and also their peculiar fondness of it. Besides, Dioscorides informs us, that garlic grew very abundantly in Egypt. The inhabitants of that idolatrous country were not only very partial to the *eating* of garlic, but actually enrolled it among the number of their gods, and gave it divine honour. What abominable depravity! To this fact Pliny, the ancient historian, gives his testimony. He says, that "onions and garlics were among the deities of Egypt, and that they even swore by them."

ALLIUM, or garlic, is a genus of the *monogynia* order, belonging to the *hexandria* class of plants. Linnæus enumerates thirty-three different species. The roots of garlic are of the bulbous kind, of a round irregular

GARLIC

shape, with several fibres at the bottom; each root is composed of a number of lesser bulbs, called *cloves* of garlic, enclosed in one membraneous coat, and easily separable from one another. All parts of the plant, but especially the roots, have an acrimonious taste, with a strong offensive smell. The Greek name of garlic is "*aleo*," and signifies to *shun*, because of its offensive smell.

The flower of the garlic consists of six leaves, with a pistil in the centre; this at last becomes a roundish fruit, divided into three spherical shells, each containing seeds of the same figure. As a medicine, it is exceedingly penetrating and active. It is of greatest value for medical purposes when it is fresh and full of juice. It has often been found serviceable in asthmas and catarrhous disorders of the breast; and also in other disorders proceeding from a laxity of the solids, and cold, sluggish indisposition of the fluids.

The ancient historian, Herodotus, says, that one hundred thousand workmen were employed for thirty years in building the pyramids of Egypt, and that one thousand six hundred talents of silver were expended in radishes, leeks, onions, and garlic, amounting at least to £289,379 sterling.

POPLAR-TREE.

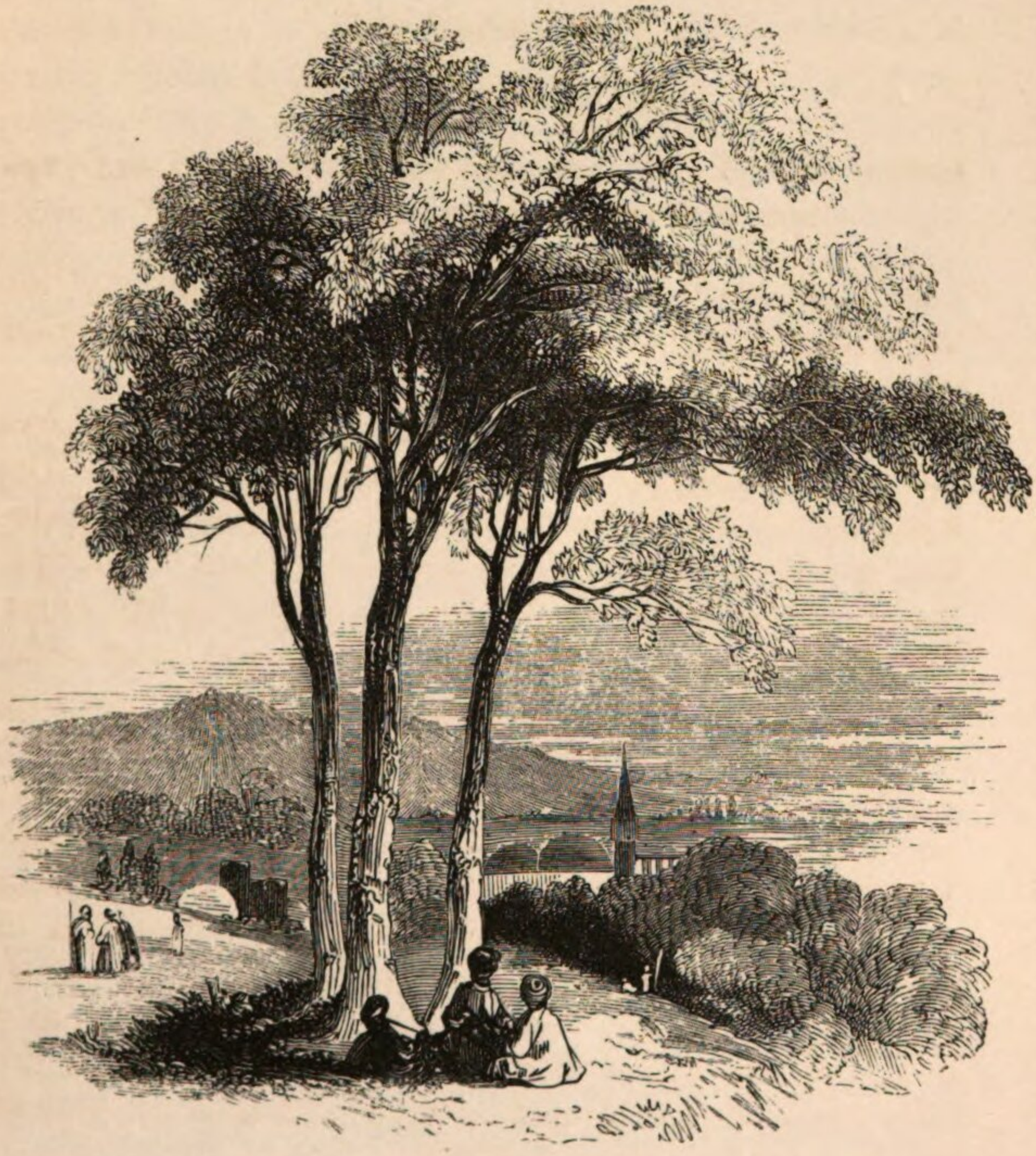
לבנה, LIBNEH. *White.*

HOSEA, IV. 13.—"*They sacrifice under oaks, and poplars, because the shadow thereof is good.*"

THE poplar-tree is distinguished in Scripture by the name *libneh*, signifying white, because of its peculiar whiteness.

The POPULUS, or *poplar*, is a genus of the *octandria* order, belonging to the *diœcia* class of plants. The following are the principal species. The *alba*, or abele-tree, grows naturally in the temperate parts of Europe. Its leaves are large and divided into three or five lobes, indented on their edges, very dark in the upper side, but very white and downy on the under side, standing on footstalks an inch long. The young branches have a purple bark, and are covered with a white down; but the bark of the stem and older branches is grey. The male flowers are cylindrical, about three inches long, and make their appearance in the beginning of April; the female flowers come out in a fortnight after, and they have no stamina like those of the male; in five or six weeks after, the seeds of the female are fully ripe; then the catkins drop, and they are wafted by the wind to a great distance.

The arrangement of Providence for the scattering abroad of the seed of plants and trees upon the surface



POPLAR-TREES.

of the earth, and even in the crevices of almost inaccessible rocks, is truly astonishing. This process is partly carried on by birds, and in a very great measure by the breezes of the sky. Myriads of seed are provided with downy wings, and are thus easily and effectually wafted along the air, and then deposited on the ground, where they are destined to take root and spring up, and grow in all their elegance, verdure, and luxuriance.

Another species is the *tremula*, or aspen-tree. It has roundish, angular, indented leaves; they stand on long footstalks, are smooth on both sides, and are shaken by the gentlest breeze. There is something not only singular, but animating, in looking upon this poplar, and seeing the quick tremulous motion of its ten thousand leaves. I can now, at this distance, remember the feelings of delight I experienced when a boy from looking on this tree. On account of this peculiarity it has the title of the *trembling-poplar*, or the *aspen-tree*.

There is a species called the *black-poplar*, the inner bark of which is used by the inhabitants of Kamtschatka as a material for bread. Paper has even been sometimes made of the cottony down of the seeds.

The buds of the *tacamahaca* species furnish a valuable gum, having a delightful smell, resembling lavender.

HAZEL.

לוּז, LUTZ. *To turn aside.*

GEN. XXX. 37.—"*And Jacob took him rods of green poplar, and of the hazel, and chestnut-tree, and peeled strakes in them, and made the white to appear which was in the rods.*"

THE poplar, hazel, and chestnut-trees are introduced in a very singular way into the history of the patriarch Jacob. During fourteen years he had most faithfully served his uncle Laban, the Syrian; he had the oversight and care of his numerous flocks: Jacob was a skilful and conscientious shepherd; he attended to his uncle's flocks as carefully as if they had been his own. During his fourteen years' servitude, the increase and prosperity of the herds were so great, that astonishing additions were made to Laban's wealth. He was a covetous and ungrateful man. He knew the benefit he had derived from Jacob's services; but he was unwilling to acknowledge it or reward it. He was even unjust to Jacob. Laban agreed that all the spotted cattle and brown sheep produced should be his wages. Of course, he expected the number would be very small. Instigated by a vision, Jacob placed rods of poplar, hazel, and chestnut before the eyes of the flocks in the time of conception; and by the miraculous power of God, they brought forth that very description of ring-

HAZEL.

streaked, speckled, and spotted cattle, which was mutually agreed upon should be Jacob's hire. This is the history of the introduction of the *hazel-tree* into the sacred text.

CORYLUS, or *hazel*, or *nut-tree*, is a genus of the *monœcia polyandria* class. It hath male and female flowers growing at remote distances upon the same tree: the male flowers are produced in long scaly catkins, having no petals, but eight short stamina fastened to the side of the scale; the female flowers are included in the future bud, sitting close to the branches; they have no petals, but a small round germen occupies the centre, which afterwards becomes an oval nut. There are three species; the wild *hazle-nut*, the *filbert*, and the *Byzantine-nut*.

No great use is made of the nut-tree in medicine. The kernels are hard of digestion; and yet an emulsion made of them with mead is recommended as affording relief to an old dry cough.

Filberts are more nourishing than nuts: at all times the moderate use of them agrees with every age and constitution in good health. Nuts and filberts, when taken in considerable quantities, are a purgative.

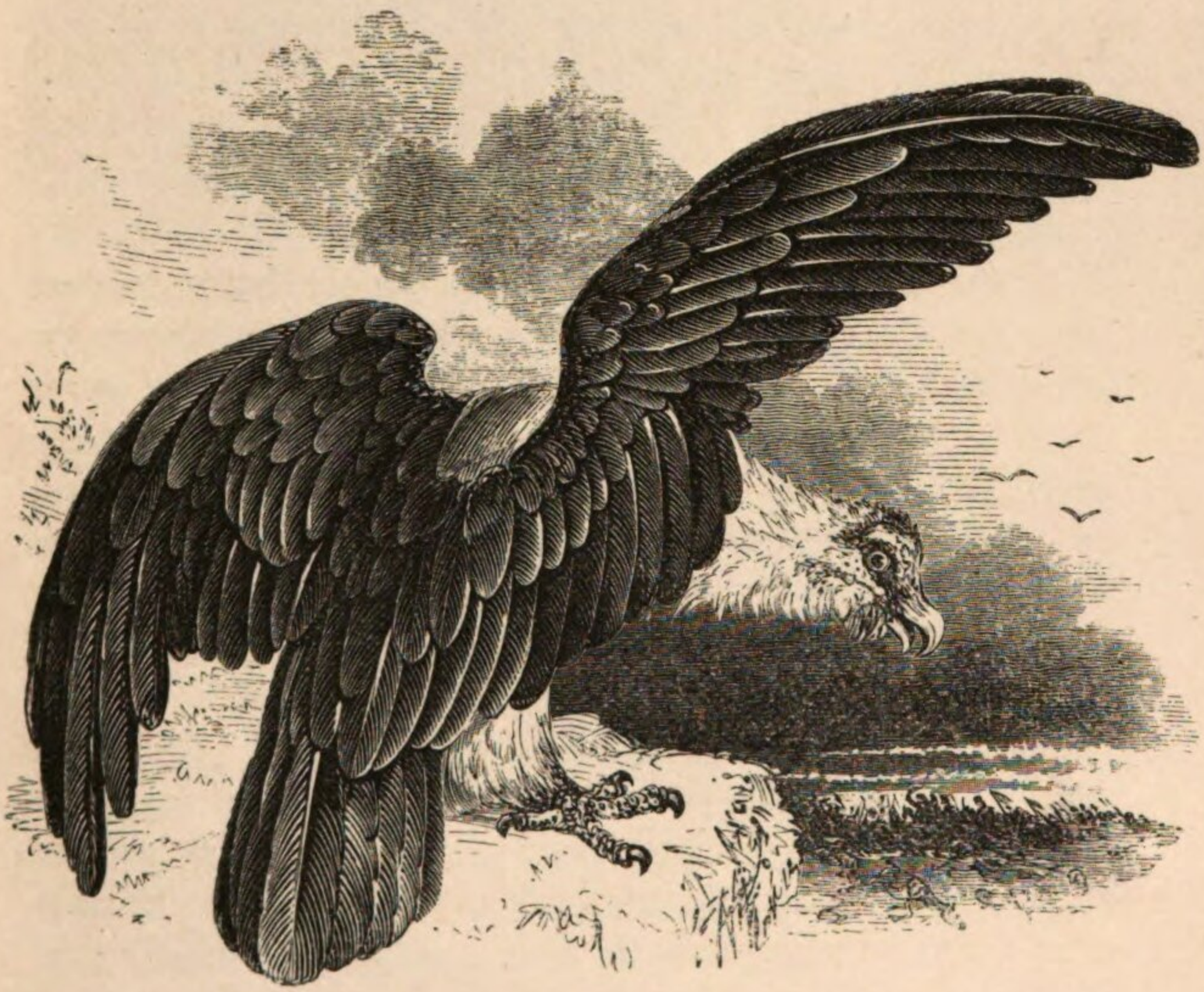
The different species of the hazel are all propagated by layers, or by sowing their nuts in February. To preserve them good, they should be kept in sand in a moist cellar where the vermin cannot come to destroy them, and having a free circulation of air.

THE BEARDED-EAGLE.

REV. XII. 14.—"*And to the woman were given two wings of a great eagle, that she might fly into the wilderness into her place, where she is nourished for a time, and times, and half a time, from the face of the serpent.*"

THE eagle is often introduced into the rich, figurative, and expressive language of Scripture. In the verse quoted above, Jesus, the glory and the defence of his church, is compared to a *great eagle*, to an eagle of the largest size, of the noblest appearance, of the greatest strength, whose eye is the most acute, and whose flight is the most rapid and the most lofty. Think how *great* his height, his power, and his discernment. How wonderful his wings; namely, his perfections and providence. By these wings his church and people are protected; and on these wings they are conveyed in safety over all the storms and tempests of their present wilderness state, and at last carried to a sure resting-place beyond the skies.

The FALCO BARBATUS, or *bearded-eagle*, has a beak of a purplish flesh-colour, and hooked only at the point. The head and neck are covered with feathers. It is called the *bearded-eagle*, because there is suspended beneath the throat a kind of beard composed of very narrow feathers, like hairs. The legs are covered with feathers even to the toes, which are yellow; the claws



THE BEARDED EAGLE.

are black; above, the body is blackish brown; and beneath, the parts are white, with a tinge of brown.

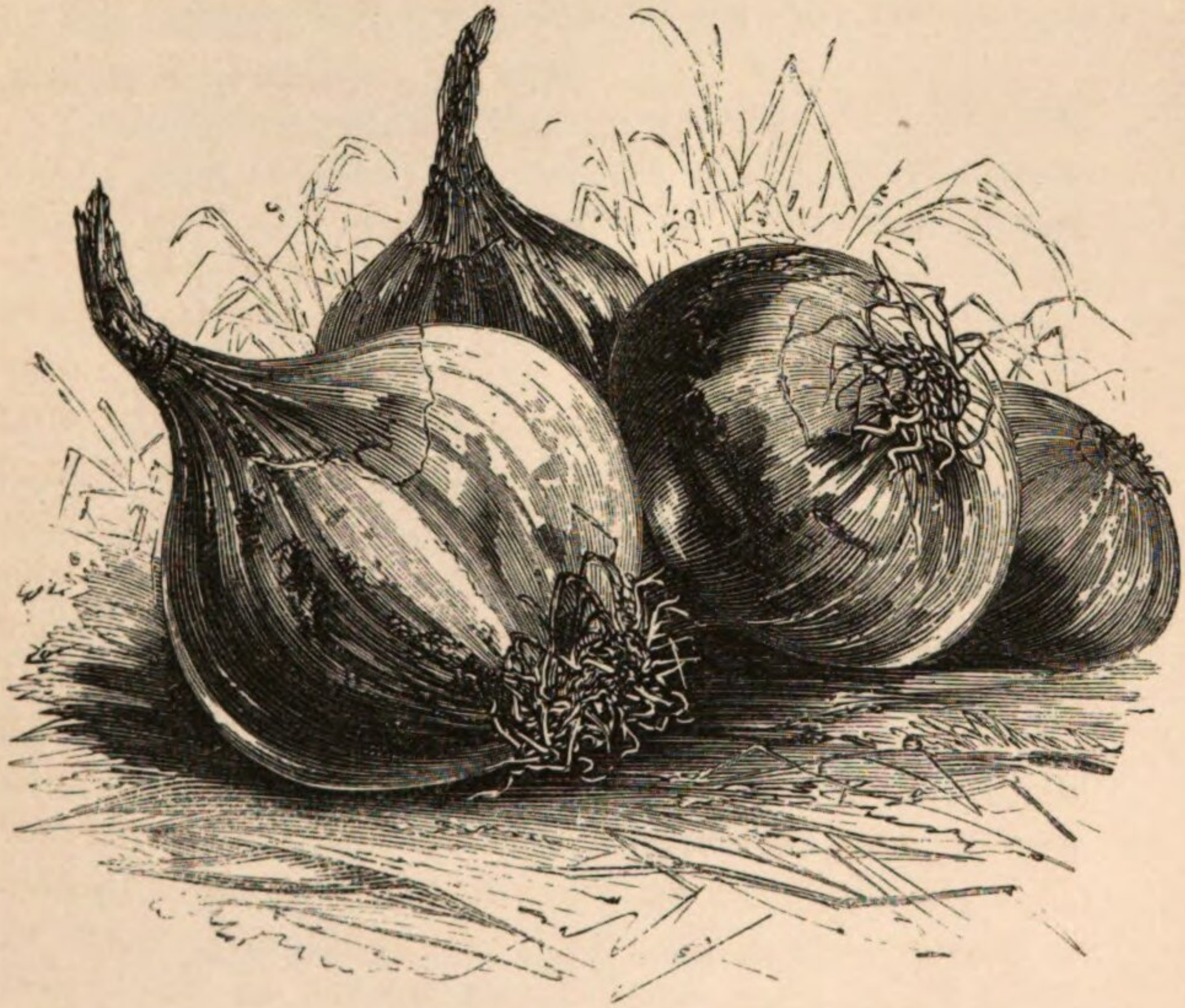
The bearded-eagles are inhabitants of the highest, the most formidable and awfully sublime parts of the great chain of snow-clad Alps that separates Switzerland from Italy. Sometimes they are found of a size truly wonderful: one caught in the Canton of Glarus measured, from the tip of its beak to the extremity of its tail, nearly seven feet, and from the extremities of its extended wings eight feet and a half. Even some have been shot much larger. This furnishes some idea of the remarkable duration of their life. Their nests are usually placed in the clefts of rocks, in situations too lofty and inaccessible ever to be reached by man. The food of these formidable and magnificent birds consists of the chamois, white hares, marmots, kids, and more particularly lambs. Because of their devouring the latter, the Swiss peasants call them by the name of *lammer-gyer*, or lamb-vultures. Mr. Bruce, the traveller, met with an eagle of this species not far from Gondar, the capital of Abyssinia. He considers it the largest bird in creation.

ONIONS

בצל, BATZAL. *To peel off, as the bark from a tree.*

NUM. XI. 5.—"*We remember the cucumbers, the melons, and the leaks, and the onions.*"

THIS is the only passage in Scripture in which mention is made of onions. They are introduced in connection with a painful and humbling part of the history of the ancient Israelites. They murmured greatly against God, and thus committed a sin of very peculiar aggravation. A series of unparalleled miracles had been performed in their behalf. Their deliverance from Egypt was preceded by ten miraculous judgments inflicted upon their Egyptian enemies. When they reached the Red Sea, they were miraculously led over the channel of that sea dry-shod. The law was delivered to them from Mount Sinai, accompanied by the most sublime tokens of the Divine presence. That they might have water to drink, the bitter waters of Marah were made sweet, refreshing, and salubrious. That they might have bread to eat in the desert, manna, angels' food, fell down from heaven every morning around their tent-doors. After all this they murmured against God: The warmest thanksgivings should have risen from their hearts, and the sweetest melody from their lips. Instead of this they murmured against God, undervalued all his mighty acts,



ONIONS.

and in a paroxysm of the most daring discontentment, preferred being the slaves of Egypt before being the liberated people of God; preferred the leeks and onions of that country before angels' food rained down around their tent-doors from the sky.

Tournefort mentions thirteen species of onions, but in the strict sense of the term, there are three sorts to which the name properly belongs. They are propagated for winter use on account of their roots. These three are the Strasburg, the red Spanish, and the Egyptian *onion*. The seeds are generally sown in the end of February, or in the beginning of March. They require a dry, sandy, rich soil: after the lapse of a month the plants begin to appear: they reach their full growth about the middle of August; then the blades are seen shrivelled and hanging down.

The history of this plant is connected with the history of the idolatry of ancient Egypt.

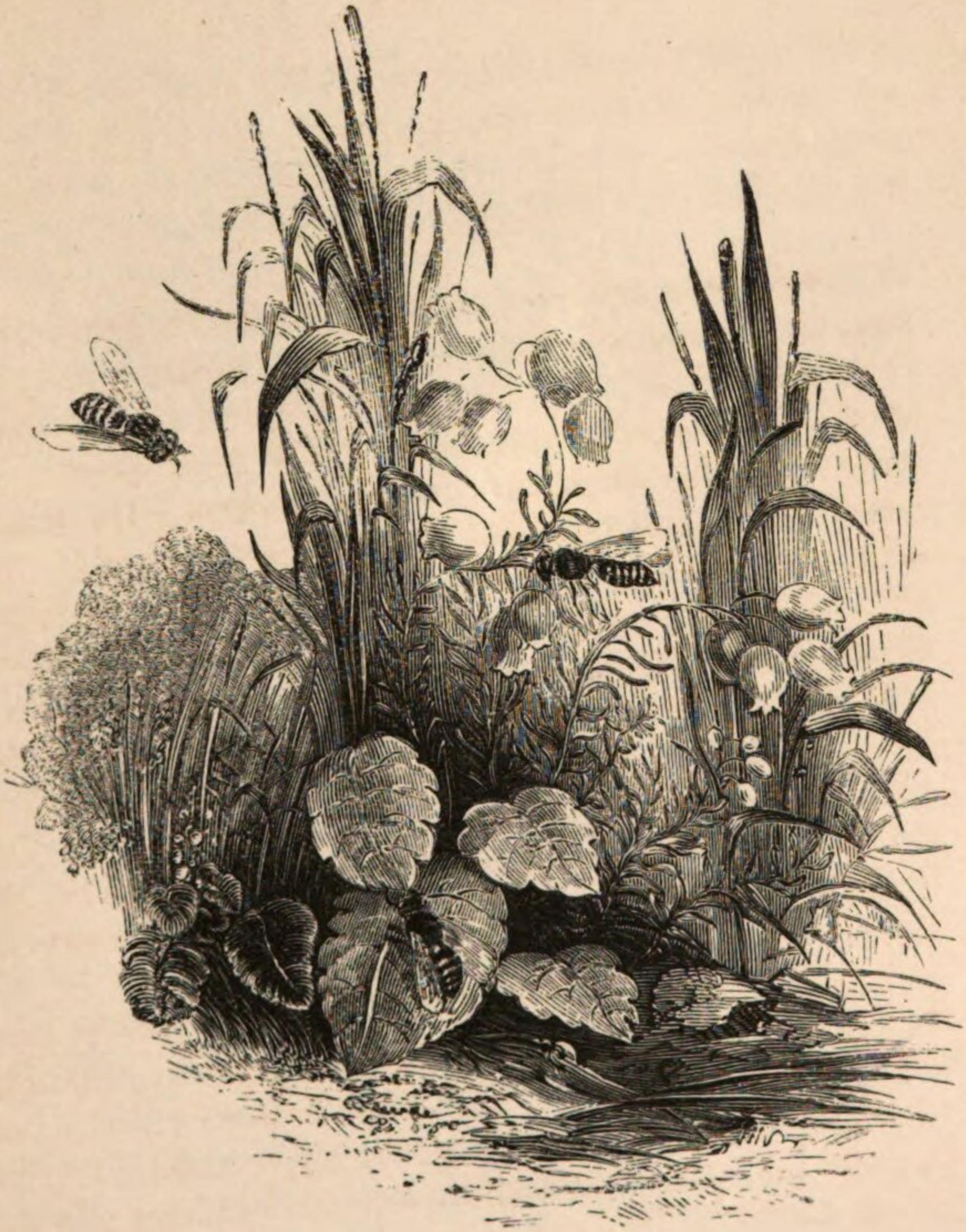
"Once Egypt, mad with superstition grown,
Made gods of monsters, but too well is known.
'T is mortal sin an *onion* to devour,
Each clove of *garlic* has a sacred power."

HORNET.

COMMON WASP.

As there is particular mention made in Scripture of the *hornet*, one of the *wasp* family, we are quite justified in giving in this work an account of the "*common wasp*," a winged insect remarkably well known, and considered by all as a common enemy. Its name is never mentioned without exciting unfavourable feelings. Besides, it is in such bad repute on account of its well known vicious temper and great propensity to inflict wounds when self-defence does not require it, that its name is employed in forming an "*adjective*" for the express purpose of describing human beings who are the annoyance of all around them by their peevish, irritable, and cross tempers, and by their unfriendly dispositions. They are well and deservedly described as *waspish*.

VESPA, or *wasp*, in zoology, is a genus of the *hymenoptera* order of insects. The mouth has maxillæ without any proboscis, and thus differing from the bee, which is provided with a proboscis, which it can introduce into the bosom of flowers and extract the delicious nectar. The upper wings of the wasp are plicated; the sting is pointed and concealed; the eyes are lunar; and the body naked and smooth. It is said there are twenty-eight species.



COMMON WASP.

Of the common wasps there are three sorts: this is no doubt applicable to the other species. There are the *queens*, or females, the *males*, and the common labouring wasps, called mules, which are neither male nor female, and therefore barren. The *queens* are much larger than the other wasps, and the great size of their body corresponds to the prodigious quantity of eggs with which they are charged. The males are less than the queens and have no stings, with which both the queens and the mules are furnished. In one nest there are two or three hundred males, and as many females; but of course the number depends on the size of the nest.

The *mules* are a very serviceable part of the community. They are the labourers and the domestic servants belonging to the nest. Even *wasps* can furnish an example of a well-regulated domestic establishment. These *mules* procure materials for the nest, and make use of the materials for its structure. They also furnish the other wasps and their young with *provision*. How amazing to think of the instinct by which they are guided in these necessary and useful operations!

A wasp's nest is commonly round, and made of a substance resembling fine paper; the common covering consists of several leaves, or layers; it is pierced by two holes at a distance, the one is used for going in and the other for going out; the cells are arranged in combs, after the manner of bees.

CUMMIN.

כמון, CAMMUN. *Genial warmth.*

ISAIAH, XXVIII. 25.—"*When he hath made plain the face thereof, doth he not cast abroad the fitches, and scatter the cummin, and cast in the principal wheat, and the rye in their place?*"

CUMMIN is mentioned in Scripture on two occasions: the first by Isaiah, and the second by our Lord. The prophet mentions it in connexion with the great sin of Israel in their backwardness to receive instruction from God, their condescending, kind, and wise instructor. God tells them, by the prophet, that he gave the husbandman natural talent, ingenuity, and skill, which he properly turned to account, in the preparation of the ground for the seed, in sowing the wheat, cummin, and fitches, when he had so "made plain," and prepared "the face" of the ground; and also in the proper thrashing of the cummin, wheat, and fitches, after the months of harvest, by instruments suited to the purpose: "For this, God doth instruct him to discretion, and doth teach him." A gracious God employs this as an argument with the stubborn Jews to learn wisdom. "Give ye ear, and hear my voice, hearken, and hear my speech."

The second time cummin is introduced, is by our Lord, in giving reproof to the hypocritical scribes and

CUMMIN.

pharisees, who paid "tithe of mint, and anise, and cummin, and have omitted the weightier matters of the law, judgment, mercy, and faith. These," our Saviour says, "ye ought to have done, and not to leave the other undone." (Matt. xxiii. 23.)

CUMINUM, or *cummin*, in botany, is a genus of the *pentandria digynia* class. It hath an umbelliferous flower, the involucrum of which is longer than the umbel. The great umbel is uniform, the flowers have five unequal petals, whose borders are inflexed. It hath five single stamina, with a large germen situated under the flower, supporting two small styles, which afterwards become an oval striated fruit, composed of two oval seeds, which are convex.

The seed of this plant much resembles that of fennel. It grows abundantly in the island of Malta, where it is cultivated after the same manner as corn. The seed has a bitterish warm taste, accompanied with an aromatic flavour, but not of the most agreeable kind. An essential oil is obtained from them by the process of distillation. For ages cummin has been considered to possess the remarkable property of curing sterility. Among the useful animals it has been often given them to produce fruitfulness. Pigeons are remarkably fond of it. The oil, when used in small quantities, has been often successful in the cure of rheumatism.

LEAF-CUTTING BEE.

PSALM CXVIII. 12.—"*They compassed me about like bees; but in the name of the Lord I will destroy them.*"

IN the remotest ages of antiquity *bees* have been objects of great interest. Bochart mentions several ancient authors of the greatest eminence, who have celebrated in lively strains the skill, economy, and industry of bees, such as Ælian, Plutarch, Phocilides, Cicero, and others. The saying of the author of the book of Ecclesiasticus (xi. 3) is striking and beautiful. "The *bee* is little among such as fly, but her fruit is the chief of sweet things."

The leaf-cutting bees form their nests, which are cylindrical, out of the leaves of rose and other trees. They resemble a thimble, containing six or seven cells, and sometimes are six inches in depth. It is remarkable that the pieces of leaves are not glued together, but yet are so admirably adapted to each other by the consummate skill of the little winged artificer, that they do not even admit the liquid honey to drain through them. When the cell is finished, with persevering industry the bee fills it with honey and pollen from the thistles, which form a rose-coloured paste. A very little space remains betwixt the paste and the top of the cell. There the bee deposits an egg, and then

THE LEAF CUTTING BEE.

closses it over with three pieces of leaf, quite circular, and perfectly fitted for the position and purpose for which they are designed. Four pieces would be redundant, and two would be deficient. Three completely serve the purpose, and therefore *three*, no more and no less, are prepared for covering over and defending the egg containing the embryo bee. On the top of this first cell the animal builds a second, observing the same process as with the first, then a third, and then progressively, till her whole cylinder of six or seven cells is completed.

We must now particularly notice the mode adopted by these bees in cutting portions out of the leaves for rearing their little dwellings. As soon as the bee has made choice of her leaf, she is very intent upon her labour, and never desists till her work is completed. Excellent pattern for perseverance. It is "he that holds on to the end shall be saved." She performs the operation by means of her jaws, which she does with as much expedition and more nicety and exactness than we could do with a pair of scissors. When she has nearly separated from the leaf the portion she has been employed upon, she balances her little wings for the flight, and then flies off in triumph with her prize.

HEMLOCK.

רוש, ROSH. *To make desolate.*

HOSEA, x. 4.—"*They have spoken words, swearing falsely in making a covenant; thus judgment springeth up as hemlock in the furrows of the field.*"

HEMLOCK, a very poisonous herb, is introduced into a reproof which the prophet Hosea was commanded by the Spirit of God to deliver to ancient Israel. He compares the sinful, blasphemous, and false words which proceeded from their lips, with the injurious consequences which followed their corrupted expressions and abandoned actions, to *hemlock* springing up in the furrows of the field. Amos, the prophet, also introduces this poisonous herb into the complaint he was instructed to make against sinful, rebellious, and guilty Israel. (Amos, vi. 14.) "Shall horses run upon the rock? will one plough there with oxen? For ye have turned judgment into gall, and the fruit of righteousness into *hemlock*." This shows how they prevented that which was good, as if they had changed a useful wholesome plant fit for food, into poisonous hemlock.

CONIUM, or *hemlock*, in botany, is a genus of the *pentandria digynia* class. It is an umbelliferous plant; the petals of the greater umbels are uniform; each flower is composed of five unequal heart-shaped petals, which turn inwards and have five stamina. The ger-

HEMLOCK.

men becomes a roundish channelled fruit, divided into two parts, and containing two seeds. There are three species; the *greater hemlock*, with striated seeds and smaller leaves; the *hemlock* with narrower leaves; and the *hemlock* with prickly leaves. The first and common sort is frequently seen upon the sides of banks and roads in many parts of England. It is biennial, that is, lasting two years, and dies after it has produced its seed. The root is long and tapering, like that of a parsnip, but considerably smaller. The stalk is smooth, spotted with purple, rises from four to six feet high, and branching out toward the top into several stalks. The leaves are of a lucid green, and have a disagreeable smell. On the termination of the stalks are umbels of white flowers, each consisting of ten rays, or small umbels, and which have a great number of flowers spread open. The seed is channelled and small, like those of anise.

Though hemlock is generally considered poisonous, it is stated by some, that when it is young and tender, it is eaten by a portion of the inhabitants of Italy, and even esteemed by them a great dainty. The learned Mr. Ray tells us, that he found the gizzard of a thrush full of hemlock seeds. However, it is certain that scarce any animal will eat the green herb.

Dr. Storck, late physician in Vienna, in the year 1760, records some remarkable cures effected in very desperate cases by the suitable preparation and proper application of hemlock, in the case of gangrenes, and a suppuration of the corrupted parts.

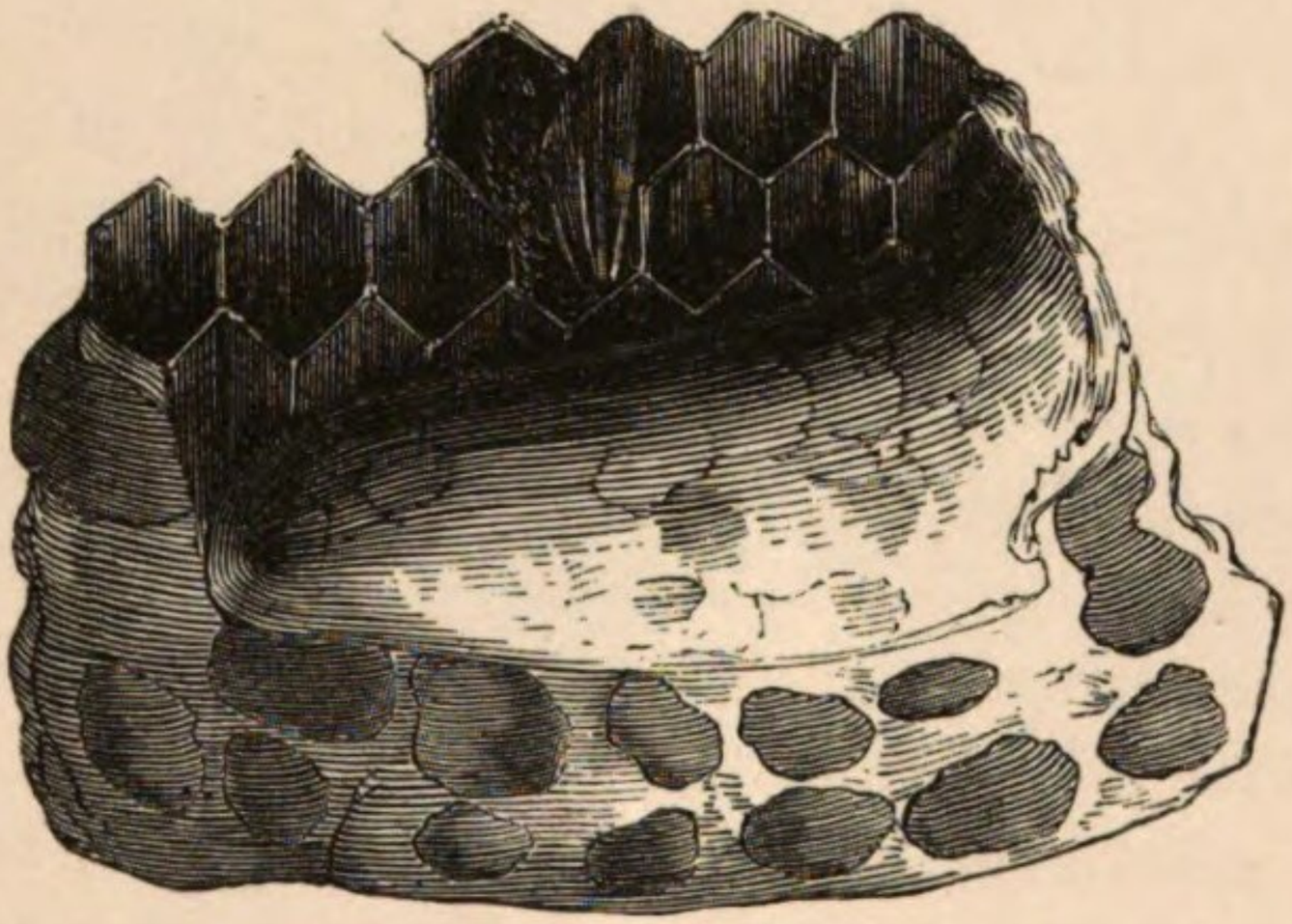
MASON-BEE.

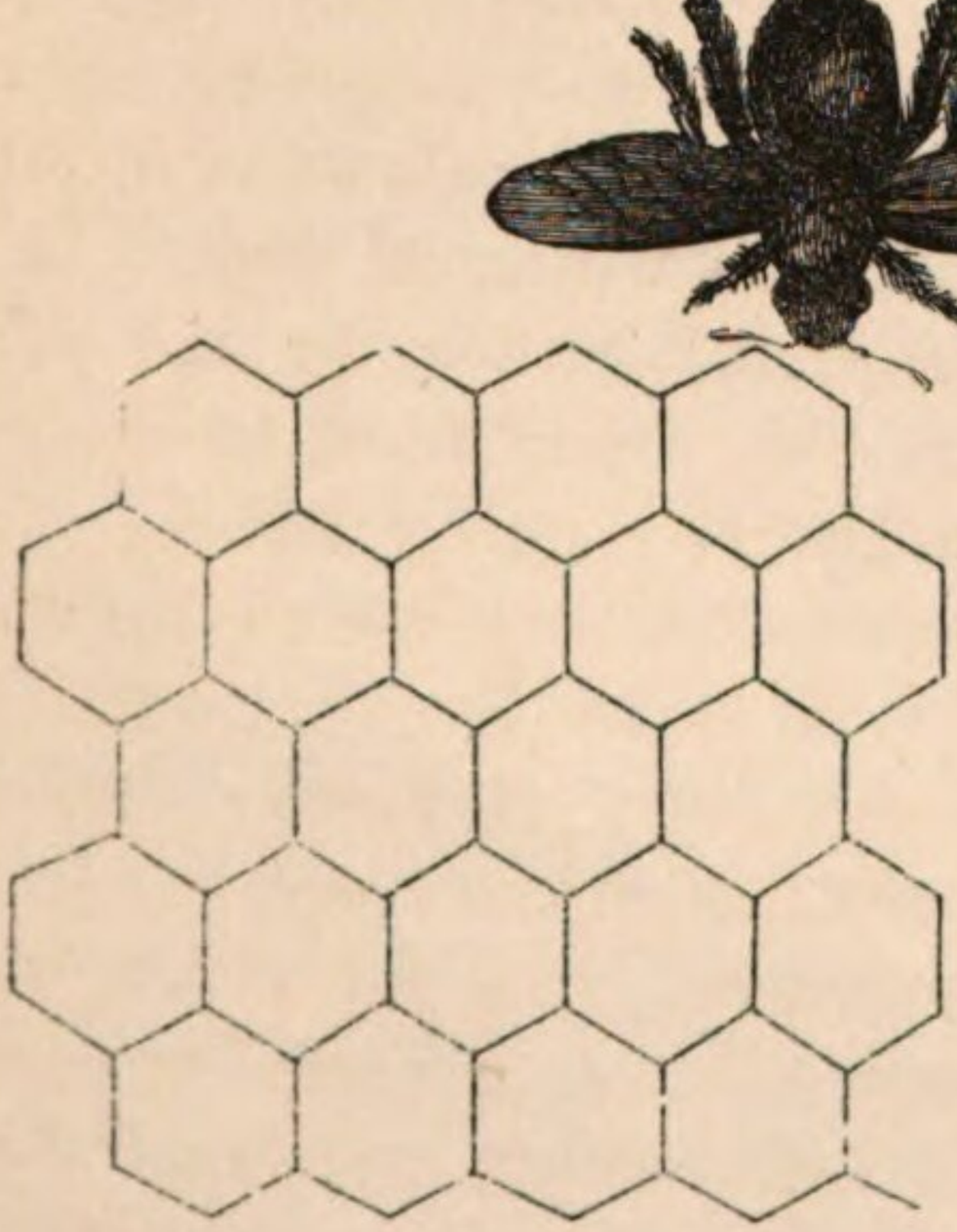
ISAIAH, VII. 18.—"*And it shall come to pass in that day, that the Lord shall hiss for the fly that is in the uttermost part of the rivers of Egypt, and for the bee that is in the land of Assyria.*"

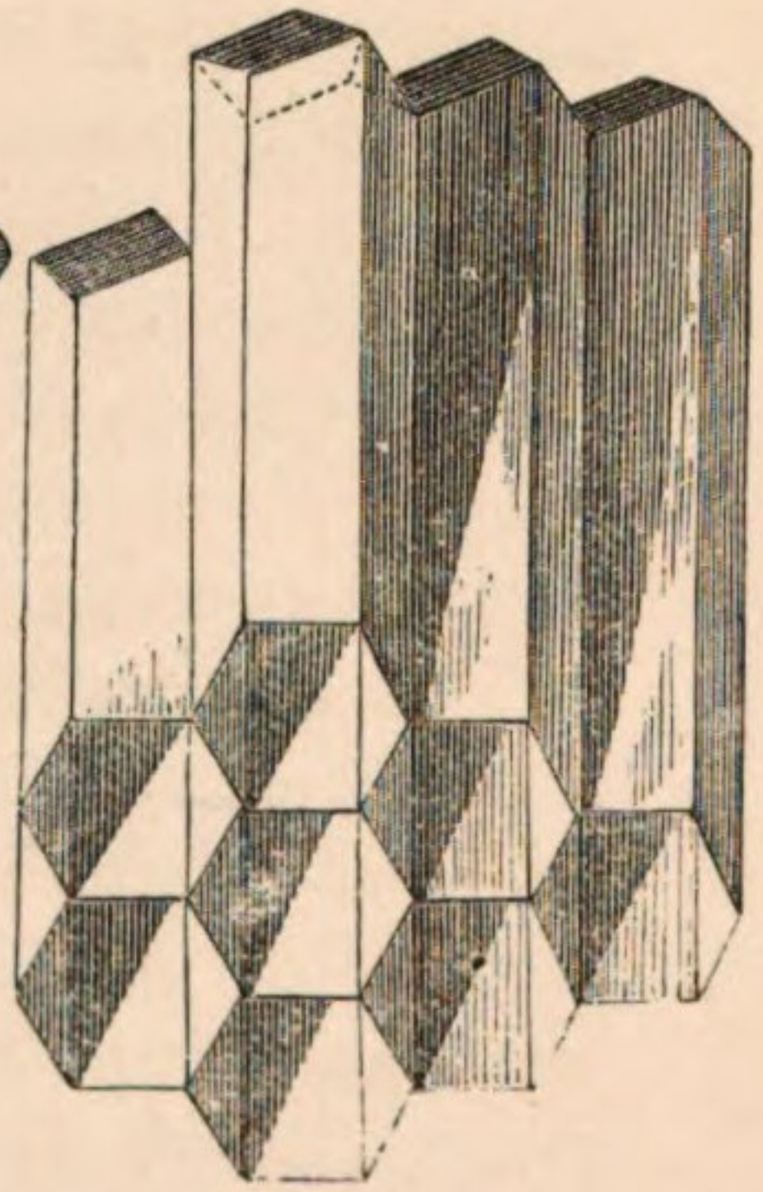
IN the passage now quoted, we have the expression, the *hissing for the bee.* This is supposed to contain an allusion to the very ancient practice of calling out the bees from their hives by a hissing, or whistling sound, to their labour in the fields, and summoning them again to return either when the heavens are covered with gloomy clouds, or when the shadows of night are beginning to displace the brightness of day. In this manner God is represented as summoning the distant Assyrians, numerous as swarms of bees, to come and encompass, fall upon, and punish guilty Israel.

The MASON-BEE is one of the very wonderful species of the family of bees. It is in length about three quarters of an inch; the body is black, and very thickly covered and defended with black hairs; its jaws are large and prominent, and terminate in two blunt teeth; the wings are black, and beautifully tinged with violet; the terminating joints of the leg are reddish. The male is covered with red hairs.

The mason-bee is one of the solitary species, and not gregarious like some of the others, living together in







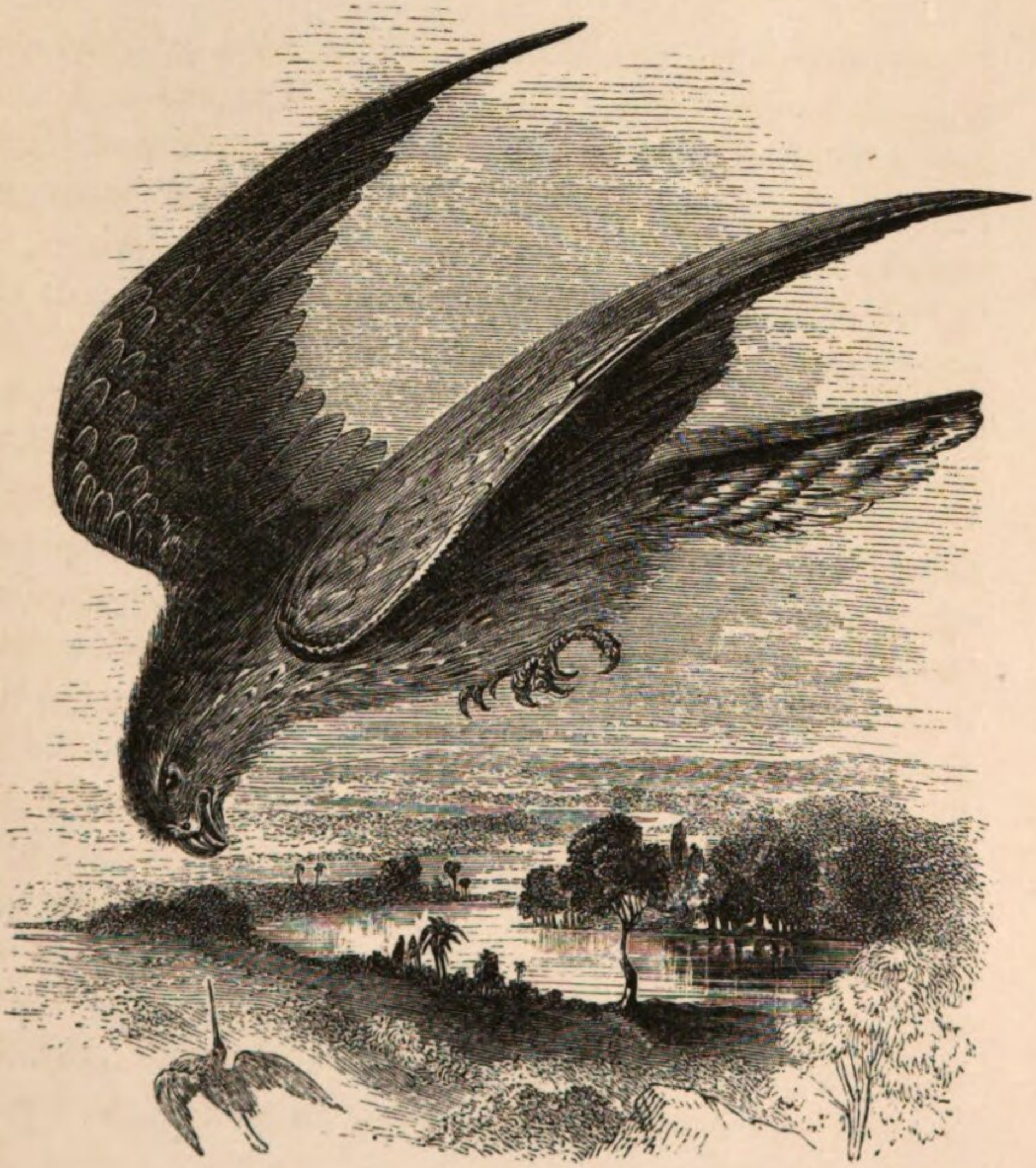
THE MASON-BEE.

large populous communities. It derives its name from the mode in which, and the materials of mud, or mortar, of which it composes and builds its nest. The external appearance shows no ornament of surface or shape, and more than anything else, it resembles a piece of mud accidentally thrown against a wall. But very different its internal structure. There we see the striking marks of instinctive skill, industry, and action. The cells are regular, each of which furnishing a convenient lodgement to a white larva, much resembling that of the hive-bee. It is very singular that the whole work of constructing this residence is performed by the female bee. She receives no assistance from the male. He has neither skill nor desire for the work.

The mason-bee shows wisdom in the selection of a proper site for her future abode. It is generally a corner, or angle, sheltered by a projection on the south-side of a stone-wall. Having settled this most important matter, she proceeds immediately to find out the proper material: it must be mortar, or mud mingled with sand: she is very careful in the selection, which she does with her jaws, grain by grain! then she glues together with her saliva as many small grains as will amount to the size of a small shot; this she takes up in her jaws, and then flies to the spot she had chosen for her future abode, which she completes in four or five days.

HAWK-LANNARIUS.

LANNARIUS, in ornithology, is a bird of the long-winged hawk kind. In English it is called the *lanner*, and the male the *lanneret*. Its beak and legs are blue; its head and neck are variegated with large streaks of black and white; its back, wings, and tail are not variegated, unless with a few small white spots; and its wings when extended are speckled underneath with small round white spots; its neck and legs are very short. This species is very common in France, remains the whole year without migrating like other hawks; is very docile, and is trained up for all the purposes of the ancient and animating amusement of falconry. The same species is found in the southern climate of Italy, but differs in the following respects:—it has much of a yellowish brown about the shoulders, and is so indocile, that it is of no use in sporting. It is also found in Ireland, and is thus described by Mr. Pennant: "It is less than the buzzard; the ear is of a pale greenish yellow; above each eye, to the hind part of the head, passes a broad white line, and beneath each, a black mark pointing downward; the throat white; the breast tinged with dull yellow, and marked with brown spots pointing downward; the thighs spotted in the same manner; the quill-feathers dusky; and the tail spotted like the wings."



THE HAWK LANNARIUS.

The lannarius makes her nest on lofty trees in forests, or on high cliffs near the sea-side. It seeks a situation secure from invading foes. In this respect it is guided by an unerring instinct. But how inconsistent the generality of men, though endowed with reason, by which they are elevated so infinitely above the irrational tribes, they show no concern to secure a place of safety for their souls, which are of incalculable value and of endless duration. Even the wild bird of which we are speaking should teach man wisdom. Happy he who can say on good grounds, "my place of abode is the munition of rocks; God is my high tower, my refuge, and my fortress."

There is another kind of *lannarius* peculiar to the Alpine regions. Their heads are white, flat on the top, their eyes black and large, and their beaks short and thick. This hawk never lies upon the wing after she has flown to a mark. After once stooping, it makes a point, and like the *gos-hawk*, waits the fowl. Abroad she is more valued than in England. Here she is considered as slothful and hard-mettled. To speak in the language of *falconry*, a very strict hand must be kept over her, as being of a very ungrateful disposition. She is flown at field or brook, and will maintain long flights, by which means much fowl is killed.

HEATH.

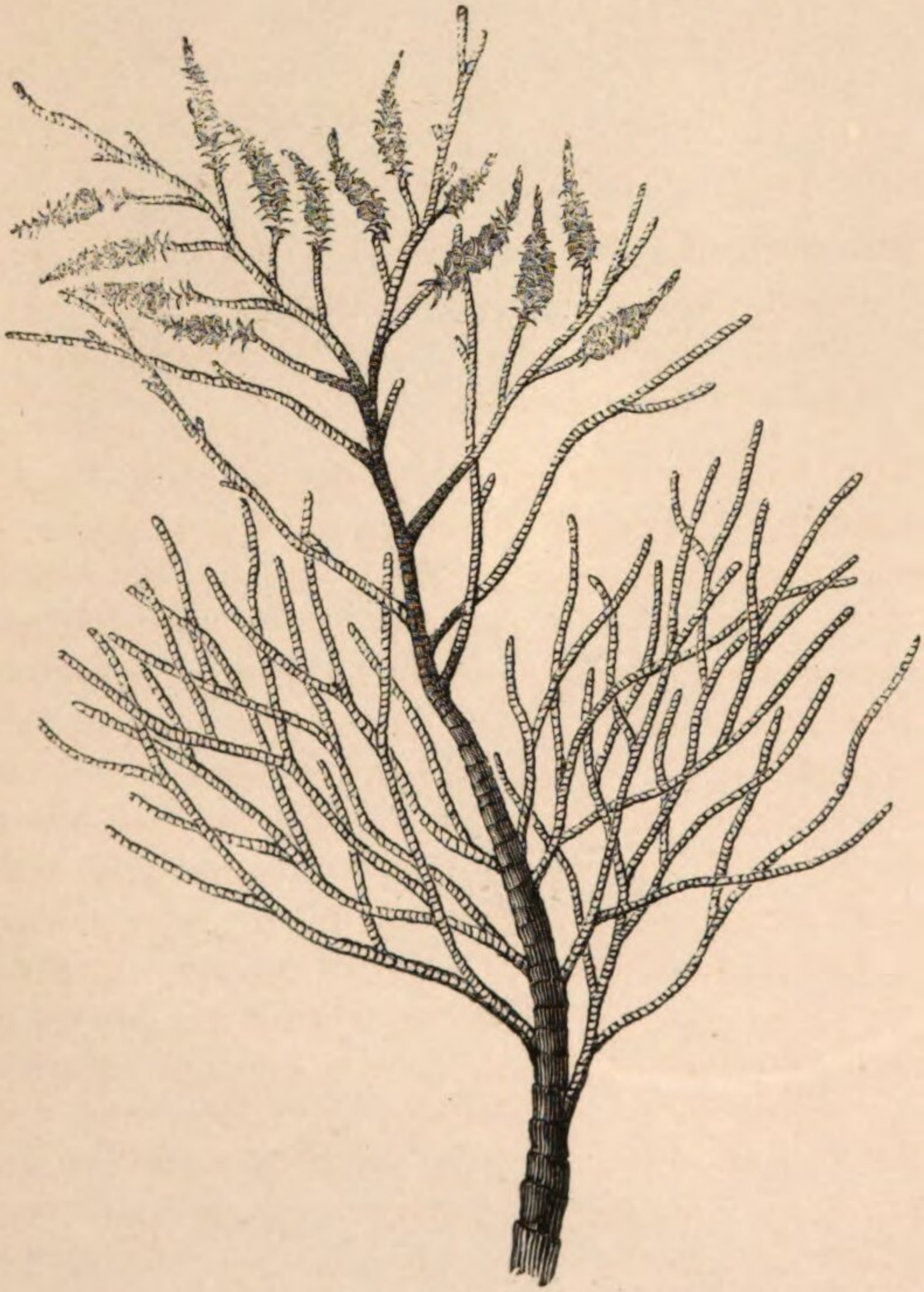
ערער, ORORR. *Destitute.*

JER. XVII. 6.—"*For he shall be like a heath in the desert, and shall not see when good cometh; but shall inhabit the parched places in the wilderness, in a salt land and not inhabited.*"

THE *heath* is employed by the prophet Jeremiah to furnish a figurative description of the wicked. It *sees not when good cometh.* It doth not flourish in the spring, but towards the end of summer. It grows in barren moors, in situations the most unpropitious, and therefore is of no value, as it respects the production of useful fruit. Wicked men are likened to it, as they are useless and contemptible, and as they are unprofitable with regard to true godliness and unfeigned piety in the midst of the merciful providences of God.

ERICA, or *heath*, is a genus of the *octandria monogynia* class. In the different species the flowers are exceedingly beautiful both as to colour and shape. This is evident to every observer in nature who witnesses the variety of heaths, from the lofty elevation of mountains, downward to moors, mosses, and commons, where, in situations less exposed, their blooming loveliness is more richly developed.

The flower hath a coloured empalement of four leaves, and one swollen petal, with eight stamina fixed



HEATH.

to the receptacle. In the bottom is situated a germen; this afterwards becomes a round capsule, having four cells, which are filled with small seeds. There are four species which grow wild upon numerous barren, uncultivated places in Great Britain. The quantity growing in various parts is incalculable. I have seen many hills covered with heath. "The heath-clad hills of Scotland," is an expression quite proverbial. Surrey and Hampshire furnish many extensive portions of their surface completely covered with heath. It is of a *ligneous*, or woody quality, but can be turned to no other use beside that of furnishing materials for *brooms* or *fires*. But their lovely blossoms have in all ages afforded enjoyment to countless myriads of bees. They contain the most delicious nectar; and there is no honey so refined, rich, wholesome, and delicate, as that which is obtained from the crimson, fragrant, bell-shaped blossoms of the heath.

A most astonishing variety of heaths have been imported from foreign and distant lands. Now they occupy a very distinguished place in the collections of eminent nurserymen, and in the splendid conservatories of the noble and opulent. The variety has often excited my astonishment.

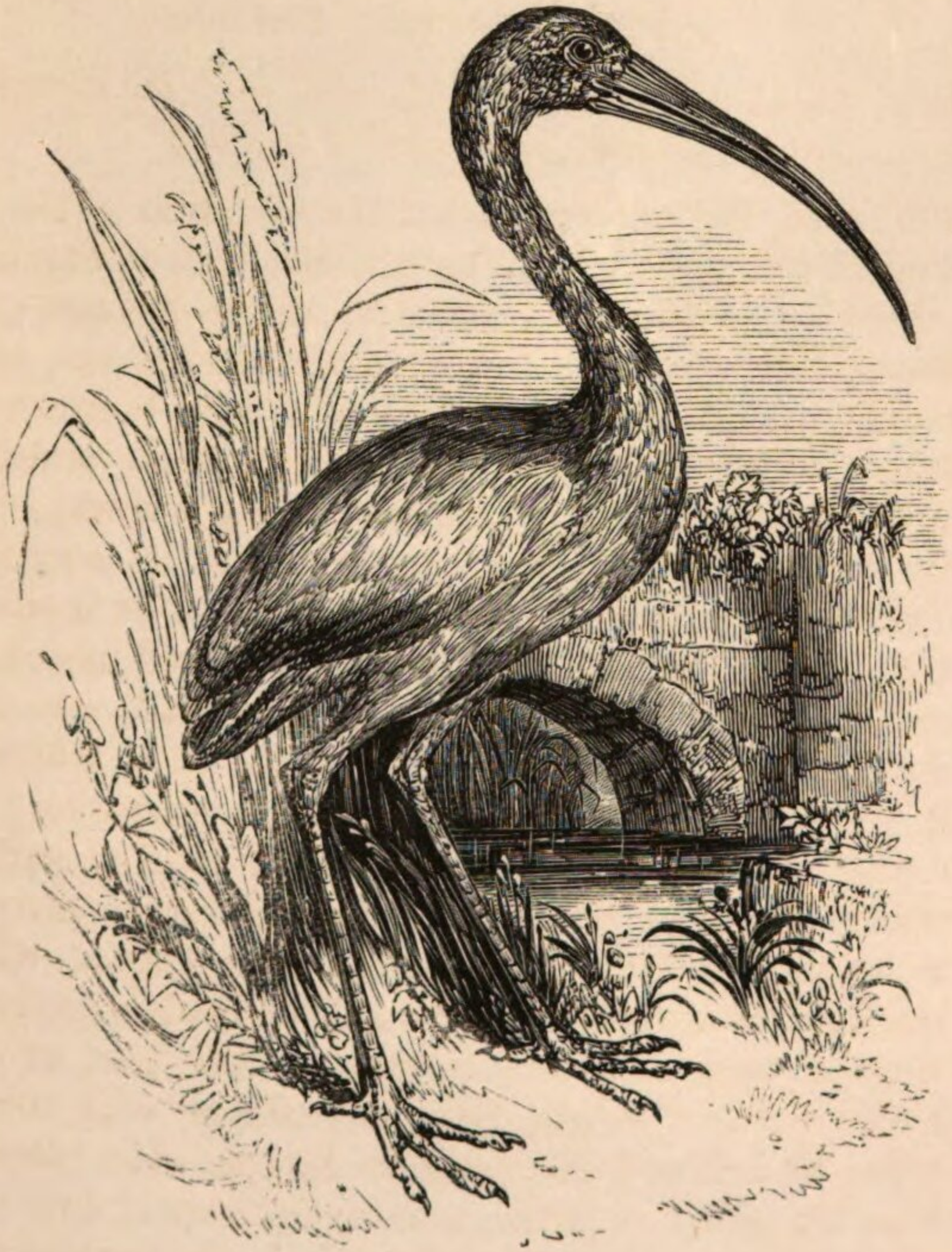
It is said that distilled water of the heath-flowers cures redness of the eyes and mitigates their pain.

IBIS.

יַנְשׁוּף, YANSHUPH. *Twilight.*

LEV. XI. 17.—"*And the little owl, and the cormorant, and the great owl*" (*or ibis*).

THIS bird, the IBIS, attracted the attention of the most ancient philosophers and naturalists, such as Strabo and others. Our English translators, in the passage quoted above, have rendered the word YANSHUPH, *owl*, which, in the judgment of many, should have been rendered IBIS. Strabo describes this unclean bird, which was very common in Egypt, as resembling a stork. Some are black and others white. It was a remarkable circumstance, that every object, animate or inanimate, which the idolatrous Egyptians considered useful, they deified. Hence the number of their gods was almost incalculable. The *ibis* was one of the birds which held this exalted place in their sacred veneration: they found it exceedingly useful in devouring serpents, which otherwise would have overrun their country. If a person killed this bird it was a capital crime, whether the deed was done intentionally or inadvertently. It showed very considerable tact on the part of Cambyses, King of Persia, being acquainted with this fact, when he besieged Damietta, in Egypt. He placed before his army a great number of sacred birds: the Egyptians, not daring to injure the birds, permitted their city to be taken.



THE IBIS.

The bill of the TANTALUS, or *ibis*, is very long and straight, without a nasal pass, a little inflected at the tip, which is curved; the face naked; the legs very long; and the lateral toes united by a broad, scalloped membrane. There are five species.

The *ibis religiosa*, or *tantalus Ethiopicus*, and also known as the *sacred ibis*, is common in Ethiopia, and in the whole of Lower Egypt during part of the year. Part of the head and neck is naked, and the general plumage is diversified with glossy black and white. There is a marked difference betwixt the young and the old birds: the former having the crown of the head and the nape furnished with long, pendent plumes.

This bird sometimes lives in a solitary state, and sometimes in small bands of eight or ten. In its flight it is vigorous and lofty: its mode of flight is very peculiar: when on wing it stretches out its neck and feet horizontally, like most of the same genus, uttering from time to time a very hoarse, disagreeable scream. They are often seen in groups, remaining together for hours, on ground recently abandoned by the water, very busily employed in exploring the mud with their bill. They do not hop and run like the curlews, but walk slowly and deliberately, step by step. Where they breed is not ascertained. They arrive in Egypt when the Nile begins to swell, and leave when the waters subside.

LEEKS.

חציר, CHATZIR. *To surround; bulbous.*

Num. xi. 5.—"*We remember the cucumbers, the melons, and the leeks.*"

Porrum, or *leek*, is a species of plant belonging to the genus of *allicum*. Onions and garlic belong to the same genus. There are two species known in England; the *sativum*, or London-leek, and the *ameloprasum*. The first is the kind commonly cultivated, and of it there have been supposed two varieties. The other species is a native of Siberia. Its leaves are narrower than the common sort; the stalks are smaller, and do not rise nearly so high. The heads of the flowers are also smaller, and of a purplish colour; the stamina stand out beyond the flower. Leeks are cultivated the same way as onions, and commonly sown along with them; and their qualities as food are also the same. They grew abundantly in Egypt, and also in Palestine.

Travellers inform us, that all the more useful and common species of *allium* grow in Palestine. They mention the following:—*allium sativum*, the cultivated garlic; *allium porrum*, the common leek; *allium cepa*, the common onion; *allium ascalonicum*, the shallot; *allium sub-hirsutum*, the hairy garlic; *allium moschatum*, the musk-smelling garlic; *allium*

pallens, the pale-flowered garlic; and *allium paniculum*, the panicled garlic.

It is striking to consider the harmony betwixt the Scripture history and the ancient paintings of Egypt. These paintings clearly confirm the profuse use made in that land of the description of *allium* which is eaten. If the Jews did not use them so much in their own land as they did in Egypt, there is no doubt that they possessed them, and that they consumed them largely. The Orientals, and more especially the modern Egyptians and Arabians, are, to a very remarkable extent, fond of these vegetables. Hasselquist observes, that the *allium cepa* was doubtless one of the species for which the Israelites longed, and which they afterwards cultivated in Palestine. We may guess this, he says, by the quantity to this day used in Egypt, and by their goodness in that country.

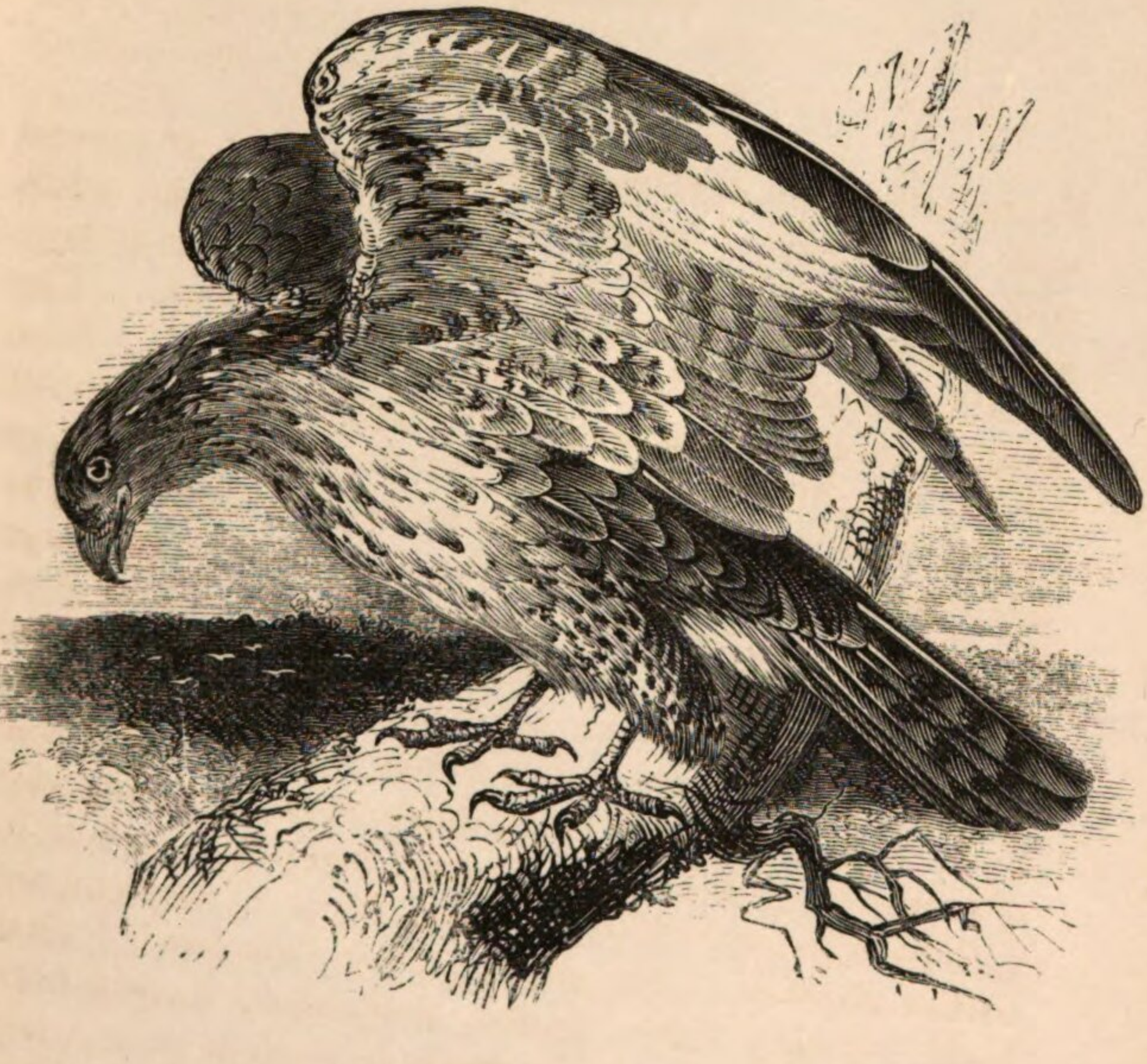
With reference to the *allium porrum*, or leek, the same writer observes, "This was certainly one of those desired by the children of Israel, as it has been cultivated from the earliest times in Egypt, and even to the present day. The seasons for this are the winter and spring months. The inhabitants are very fond of it, eating it raw as sauce for their roast meat. The poor people eat it raw with bread, especially for breakfast, and would scarcely exchange their leeks and bread even for a royal dinner."

EAGLE.

COMMON BUZZARD.

FALCO COMMUNIS FUSCUS, or *common buzzard*, is varied with brown and ferruginous colour above, and with white and ferruginous beneath; the cere and legs are yellow, and the tail banded with brown. The female is generally of darker hues than the male. The weight is about thirty ounces, and measures about twenty-one inches in length, and four feet one inch in extent of wing. The appearance of the buzzard is exceedingly drowsy and sluggish, on account of its large head, thick body, clumsy legs, and large lifeless eyes. It is too heavy and indolent to hunt by flight, and therefore is compelled to adopt another method for obtaining its subsistence. For hours together it will continue motionless on a tree, bush, stone, or even clod of earth, till some game passes within the reach of its spring, when it will dash upon it in a moment, and then devour it. Its ordinary fare consists of small birds, rabbits, hares, moles, field-mice, lizards, frogs, toads, &c. When the buzzards have their young, they overcome to a great degree their sluggish habits; they become more active, and will soar to a considerable height, ascending in a spiral direction.

The female usually makes her nest in the fork of a tree with large sticks, and lines it with wool, hair, or



THE COMMON BUZZARD.

other soft substances, and sometimes takes possession of a deserted crow's nest, which it enlarges, and makes it fit for accommodating her future family of young buzzards. She deposits two or three eggs; the number seldom amounts to four: they exceed the eggs of a hen a little in size; the colour is a dirty white, a little greenish, and most commonly spotted with rust-colour, chiefly at the larger end. The young, when in the nest, are covered with a yellowish down. In the middle of July they begin to perch upon bushes, when they utter a cry shrill and plaintive. They accompany the old birds some time after quitting the nest. This is very uncommon with birds of prey, which at a very early period show that parental affection is extinct in their bosom, and drive off their offspring from them with apparent disgust as soon as they are fledged and able to provide for themselves.

If the hen happen to be killed in the time of hatching, the cock buzzard will take its place, hatch and rear the brood. The eyes of this bird are easily dazzled by a strong light, and therefore it hails with delight the time of the setting sun.

This bird is found in many parts of the earth in very considerable variety, and is capable of being domesticated and trained to falconry.

CAMPHIRE, AND CAMPHOR-TREE.

כפר, COPHER. *To cover.*

SONG I. 14.—"*My beloved is unto me as a cluster of camphire in the vineyards of Engedi.*"

THE CAMPHORA, or *camphire-tree*, belongs to the genus of the *monogynia* order, and to the *eneandria* class of plants.

It grows naturally in the woods of the more western parts of Japan, and in the adjacent islands of the far distant Pacific. That part which smells stronger of camphire than any other is the root, which substance it yields in large quantities. The bark of the stalk has outwardly rather a rough appearance; the inner surface is smooth and mucous, and is very easily separated from the wood, which is dry in its nature, and white in its colour. The leaves stand upon slender, delicate footstalks, having an entire undulating margin running out into a point: the upper surface of the leaf is of a lively shining green, and the lower herbaceous and silky. The flowers are produced on the tops of footstalks, which proceed from the arm-pits of the leaves, but not till the tree has attained considerable age and size. The flower-stalks are slender, branched at the top, and divided into very short pedicles, each supporting a single flower: these flowers are white, and consist of six petals, which are succeeded by a

CAMPHIRE, AND CAMPHOR-TREE.

shining, purple berry of the size of a pea. It is composed of a soft pulpy substance of a purple colour, and has the taste of cloves and camphor; and of a kernel of the size of a pepper, that is covered with a black shining skin of an insipid taste.

The *camphire* is a solid concrete juice, extracted from the wood of the camphire-tree. Pure camphire is very white, clear, and unctuous to the touch: the taste is bitterish aromatic, and accompanied with a sense of coolness: the smell is particularly fragrant, something like that of rosemary, but much stronger: it has been long esteemed for its medicinal qualities, and has been justly celebrated in fevers, malignant and epidemic distempers. In deliria, where opiates failed in procuring sleep, but rather increased and aggravated the symptoms, this medicine has been often found to procure it. Dr. Cullen attributes these effects to its sedative property, and denies that camphire has any other property than that which is antispadmodic and sedative, or composing. He says that it is a very powerful medicine, and capable of doing much good or harm.

To all brute creatures camphire is poisonous. By experiments made it appears, that in some it produced sleep followed by death. In others, before death, they were awakened into convulsions and rage.

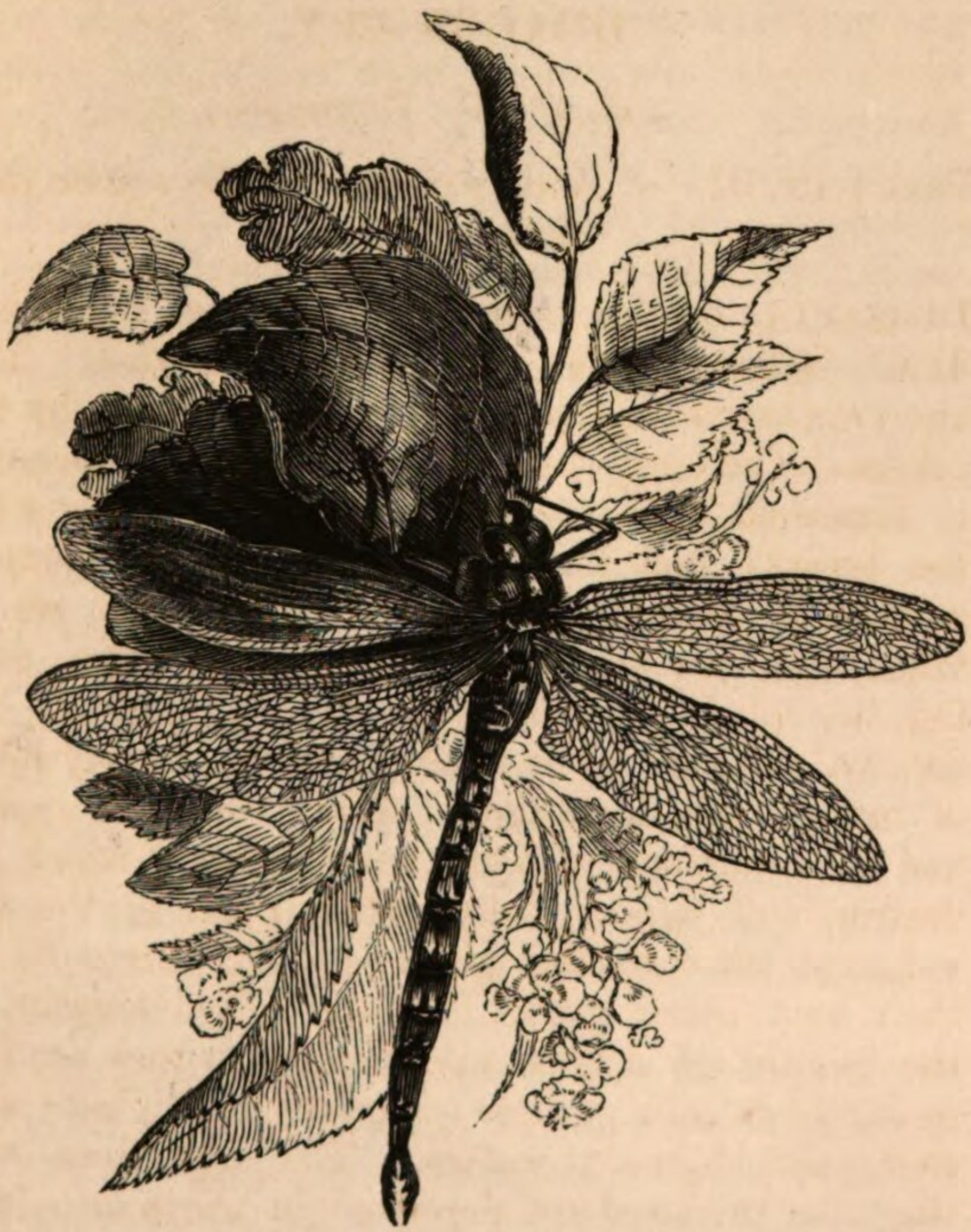
Jesus is compared to a cluster of camphire, to denote the abundance of his grace, and the exhilarating influence of his righteousness.

DRAGON-FLY.

ערב, OREB. *To mingle.*

PSALM, CV. 31.—"*And he spake, and there came divers sorts of flies.*"

LIBELLULA, or *dragon-fly*, is a genus of four-winged flies. Sometimes they are called *adder-flies*. There are twenty-one species, chiefly distinguished by their colour. The characters are the following:—the mouth is furnished with jaws; the feelers are shorter than the breast; and the tail of the male terminates in a kind of hooked forceps. All the species are provided with two very large and reticulated eyes, covering the whole surface of the head. They fly very swiftly, and prey while upon the wing, clearing the air of innumerable little flies. Their voracious appetite, and the multitude of lesser winged insects which they destroy and devour, fully entitle them to the name vulgarly, but correctly, given to them, *dragon-fly*. In their own insect grade, they are indeed *dragons*. In the months of August and September they are found in our fields and gardens, especially near places where there are stagnant waters. The eggs from which they are produced are deposited in the waters, where they are hatched by the warmth of the temperature, and from which they come fully formed and provided with all their furious and voracious instincts. The great



THE DRAGON-FLY.

ones usually live all their time about waters; but the smaller among hedges, and the smallest of all frequent gardens. The smaller kind often settle upon bushes, or upon the ground; but the large ones are almost always upon the wing, so that it is very difficult to take them. The eyes of the dragon-fly are remarkably curious, and by means of the miscroscope, present an astonishing assemblage of wonders.

The colours with which this species is adorned are most brilliant and various, consisting of green, blue, crimson, scarlet, and white. In some cases all these colours are beautifully blended in the same individual. The wings are of the most delicate texture, admit of very considerable expansion, and cannot be looked upon by the careful student of God's works without admiration and delight.

They are exceedingly ravenous; they fall with the greatest fury on all their fellow-insects, and indiscriminately devour them. Their tail is cloven, which has led many to believe they are provided with a sting. Hence, too, they have received the name of *horse-stingers*.

The great dragon-fly is remarkable for the celerity and vigour of its flight. On one occasion a great dragon-fly was seen gently flying near a pond in search of its prey, when, on seeing a butterfly, it suddenly caught it, and then sat down composedly on a twig and eat it piecemeal.

OLIVE-TREE.

זית, ZAITH. *Brightness, splendour.*

JUDGES, IX. 8.—"*The trees went forth on a time to anoint a king over them; and they said to the olive-tree, Reign thou over us.*"

THE literal rendering of the Hebrew name of the olive-tree is, the *splendour-tree.* It is so called from producing *oil*, which supports the action of fire in *light* and *splendour.*

The OLEA, or *olive-tree*, is a genus of the *monogynia* order, belonging to the *diandria* class of plants.

The *Europea*, or common olive-tree, rises with upright, solid stems, branching numerously on every side, twenty or thirty feet high. The leaves are opposite to each other, and are spear-shaped and stiff, two or three inches long, and rather more than half an inch broad. At the axillas there are small clusters of white flowers, succeeded by oval fruit.

This is the species which is very valuable for its fruit, and therefore chiefly cultivated. The varieties are numerous, differing in size, colour, and quality. It is found in the southern warm parts of Europe, and is cultivated in great quantities in the south of France, Italy, and Portugal, for the purpose of making olive-oil from the fruit. This oil is held in great repute, and is exported to all parts as a valuable article of

OLIVE-TREES.

OLIVE-FRUIT.

commerce. The green fruit of this species of olive is in much esteem for pickling, and with which we see certain description of shops plentifully supplied.

The fruit of the olive is first green, then pale, and when quite ripe, becomes black. It contains a hard stone, filled with oblong seeds.

Canaan greatly abounded with olives. Almost every proprietor, from kings down to the humblest landowners, had their olive-yards. (Neh. v. 11.) At a little distance from Jerusalem there is a little hill, which, from the most remote ages, has been known as *Mount Olivet*, or the Mount of Olives. It is separated from the ancient capital of Palestine by the brook Kidron, which David passed in great sorrow, when he fled from his rebellious son Absalom, and which our blessed Saviour afterwards passed in great anguish, when he was drawing near to the death of the cross.

From the Mount of Olives the Jews were furnished with olive-branches at the Feast of Tabernacles. (Neh. viii. 15.) In the reign of King Uzziah, a dreadful earthquake rent this mount, when one half of it rolled about half a mile westward, upon the highway. It has three tops, and it is generally believed that our Saviour ascended from the middle top. Often our Lord retired to this mount for prayer and meditation, and at last he ascended from it to heaven, carrying captivity captive, and receiving gifts for men.

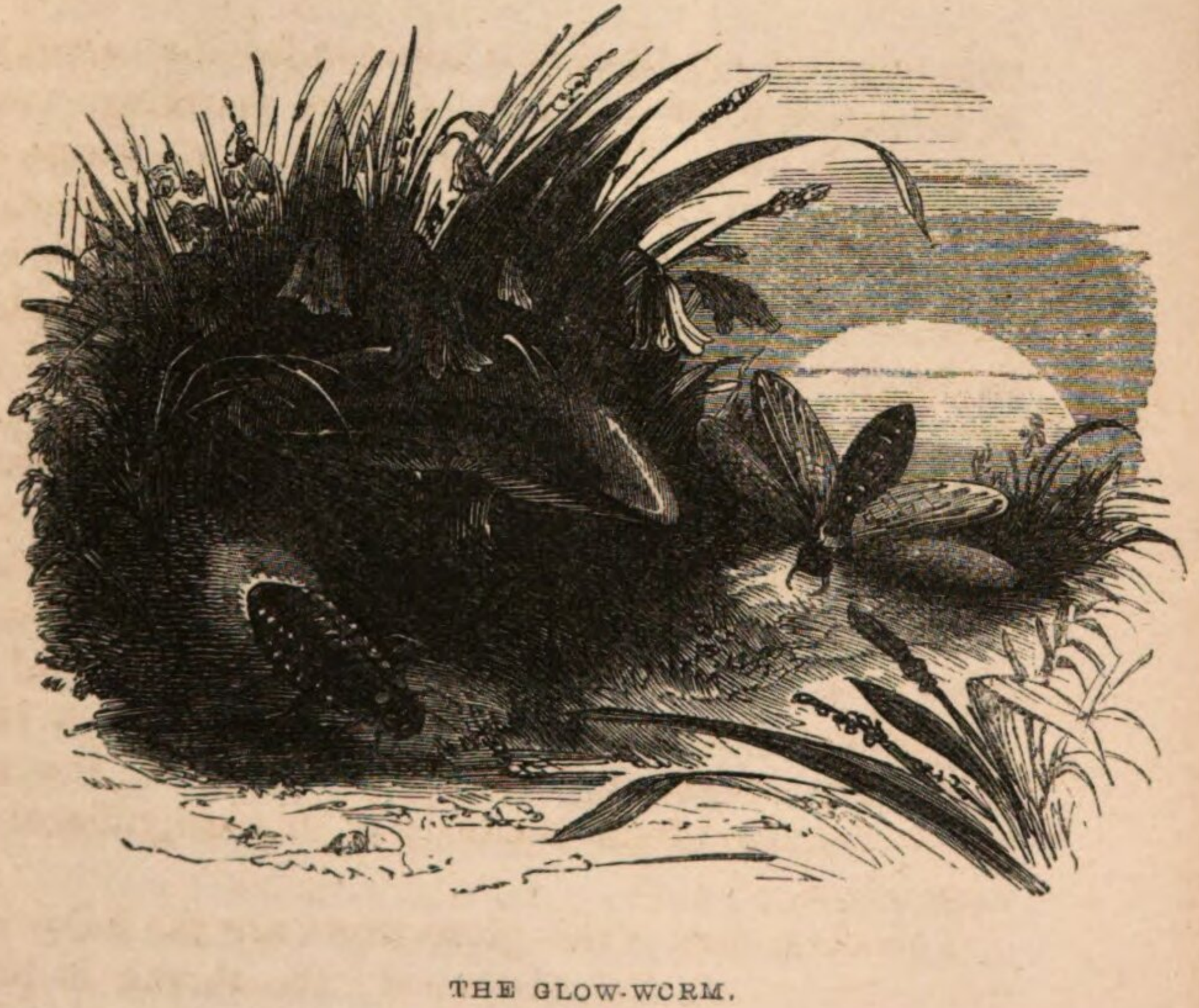
WORM.

GLOW-WORM.

ISAIAH, XLI. 14.—"*Fear not, thou worm, Jacob.*"

IT is only the female of this tribe, called the LAMPYRIS, or *glow-worm tribe*, which, strictly speaking, merits the name worm. The male is provided with wings, and therefore has not the character of *worm;* whereas, the female generally has no wings, and is therefore confined to the earth's surface, and unable to soar above to the aërial regions. The reason of the name of this insect is obvious, namely, the glowing light, which, at a certain period of the year, emanates from its body. In a dark night, these diminutive creatures shine with such brightness, as to bear some resemblance to stars. The light is so very considerable, that the writer of these lines, once in a dark night, and under one of the ancient trees in Epping Forest, actually read a letter with very considerable ease, by means of the rays which emanated from the body of this insignificant female insect.

The characters of the glow-worm are the following: the antennæ are thread-shaped; the thorax is plain, somewhat orbicular, and conceals the head: the body of the male is oblong, and somewhat flatted; the wings are shorter than the body; the head is broad, dun, and flat; the eyes are large and black: the female is a



THE GLOW-WORM.

very slow-paced animal, bearing a very considerable resemblance to the caterpillar; the head is small, hard, flat, black, and sharp towards the mouth; its antennæ are short; and it has six legs of moderate length: the body is flat and composed of twelve rings; whereas, the body of the male has only five rings; it is of a dusky colour, with a streak of white down the back. Though it is often seen in the daytime, it cannot be properly distinguished till night, when it cannot fail to attract the attention of the traveller by the glowing light which issues from its body. It is commonly met with under hedges, and, if taken up with care, may be kept alive for many days upon fresh tufts of grass, all which time it will continue to shine in the dark.

The light of this diminutive insect is so strong, that if it is confined in a thin pill-box, even though lined with paper, the light will shine through.

In the daytime this creature appears dead and sluggish, and if taken into a dark room it shows nothing of its light, unless it is turned on its back and disturbed. Soon after sunset its light and activity return. It never shines but when it is in motion.

It is when the Christian is most active that his graces shine with greatest splendour; then he is a "light shining in a dark place."

RUE.

Πηγανον EGANON. *To fix.*

LUKE, XI. 42.—"*Woe unto you, Pharisees! for ye tithe mint and rue, and all manner of herbs, and pass over judgment and the love of God: these ought ye to have done, and not to leave the other undone.*"

RUTA, or *rue*, is a genus of the *monogynia* order, belonging to the *decandria* class of plants. There are several species, of which the most remarkable is the *hortensis*, or common broad-leaved garden rue. This has been cultivated, during time immemorial, on account of its medicinal qualities. It rises with a shrubby stalk to the height of five or six feet, sending out branches on every side; these are garnished with decompounded leaves, whose small lobes are wedge-shaped, of a grey colour, and having a strong perfume.

The flowers are produced at the end of the branches in bunches, almost in the form of umbels: they are composed of four yellow concave petals, which are cut on their edges, and eight yellow stamina, which are longer than the petals, and terminated by roundish summits. The germen becomes a roundish capsule, with four lobes, having the appearance of being punched full of holes, which contain rough, black seed.

Rue is a native of the southern parts of Europe, and

RUE.

grows naturally in Syria, Palestine, and Judea. It is very hardy, and is cultivated with ease and success in our gardens, even in these northern climates, so different from the long-continued warmth of the western parts of Asia, or, as they are usually called, the *Levant*.

The smell of this herb is strong and disagreeable: its taste is both bitter and penetrating. When full of vigour the leaves are so acrid and fiery, as even to inflame and blister the skin if much handled.

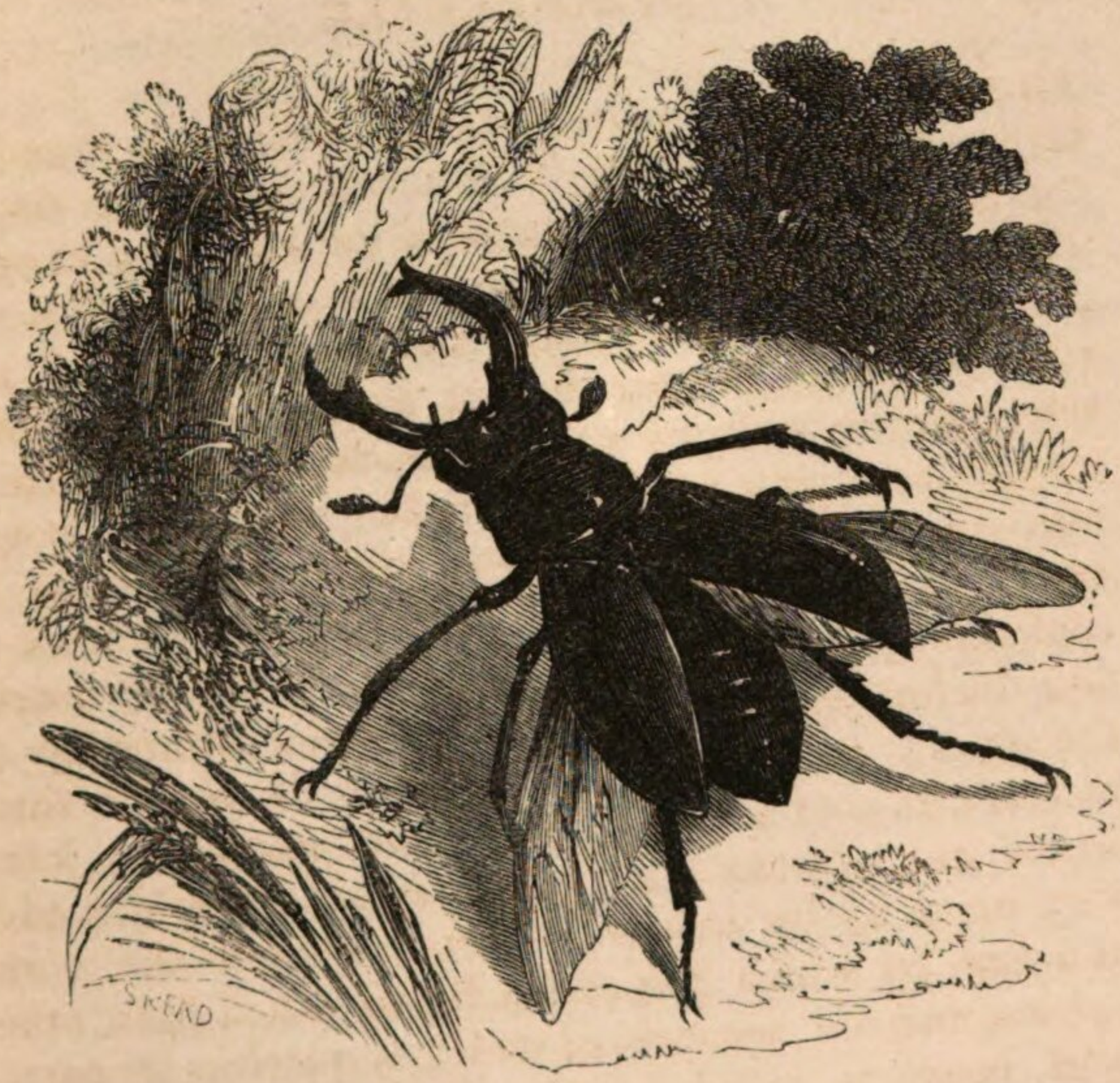
The Greek name given to it signifies to *fix*. The account by *Dr. Quincey* of this herb, seems to furnish a reason for the name, as descriptive of one of its qualities. He says, "It is replete with a viscous juice, is of excellent service in all nervous cases, and particularly in such as are *uterine*, as it deterges the glands, that is, *cleanses;* and by its viscidity, *bridles* those *inordinate motions* which commence in the *uterus*, and which, if not restrained, soon affect the whole constitution."

Boerhave, the celebrated Dutch physician, thought so highly of the medical properties of this herb, that he said, "the greatest commendations he could bestow on it fell short of its merit." He considered it as most calculated for promoting perspiration, for curing epilepsies, and expelling poison.

STAG-BEETLE.

THE STAG-BEETLE is the largest insect that is found in Great Britain; though it is much inferior in size to the elephant-beetle, the largest of the kind ever known. This remarkable species, which is a native of South America, Guinea, Surinam, and the vicinity of the river Oroonoko, a great river in South America, which runs into the ocean by sixteen mouths. As our British mountains cannot compete with the continental mountains in size, neither can our insects with those of enormous magnitude found in the warmer climes of continental regions. The elephant-beetle is nearly four inches in length, from the hinder extremity to the eyes; whereas, *our* stag-beetle is nearly three inches. It is of a dark brown colour, except the jaws, which are sometimes as red as coral, and which adds very much to its beauty. These resemble the horns of a *stag*, by which it is easily distinguished from other species, and on account of which it receives its name. This insect is called by the French, "*le grand cerf-volant*."

The antennæ of this species are club-shaped in the extremity, divided into short comb-like leaves; the jaws are provided with teeth, and project so far beyond the head as to resemble horns, and thus give the animal somewhat of the resemblance of a stag; the two



THE STAG-BEETLE.

feelers, which are under the lip, are so thickly covered with hair, as to appear like tufts.

The usual residence and the favourite haunts of this species, the king, or rather giant of British insects, are hollow places in rotten and half-decayed wood, and under the bark of trees. In the south of England these insects are often found in oak and willow-trees. They conceal themselves during the day; in the evening they open the immense cases with which the upper part of their body is covered and defended, and then unfold their beautiful wings of the finest texture, and fly abroad, and feed on those leaves which afford both enjoyment and support. How different from other species of the same family, which feed, riot, and luxuriate on the foulest excrement and the most putrefied animal substance! How strikingly this fact figuratively illustrates the different habits and propensities of human beings! Some of them seek and enjoy the refined and elevating pleasures of unfeigned piety, more delicious to their taste than the sweetest honey; while others grovel in the indulgence of the vilest and most degrading lusts.

The month of July is the time during which stag-beetles are principally seen. The males have great strength in their mandibles, or jaws. With these they are able to pinch severely, and they are evidently given them in part by the Creator as weapons of defence.

MINT.

Ηδυοσμον, EDUSMON. *Sweet smell.*

MATT. XXIII. 23.—"*Woe unto you, Scribes and Pharisees, for ye pay tithe of mint, and have omitted the weightier matters of the law.*"

THE Levitical law did not compel the Jews to pay the tithe of this kind of herbs; it only applied to those things which could be comprehended under the name of income or revenue. The Pharisees were a sect who claimed the pretensions of the loftiest degrees of piety, and therefore to obtain a name above all others for the most scrupulous sanctity, they observed the law more literally than others, and, in addition to other valuable commodities, "gave tithe of mint, anise, and cummin." Jesus did not find fault with them for paying this tithe, but he blamed them for putting this in the room of other things of infinitely greater moment. He blamed them for making the payment of this tithe an excuse for neglecting the most important moral duties and observances. He blamed them, not for what they did, but for what they did not.

MENTHA, or *mint*, is a genus of the *gymnospermia* order, belonging to the *didynamia* class of plants. The species are numerous, but not more than three are cultivated for use, namely, the *viridis*, or common *spearmint*, the *piperita*, or *peppermint*, and the *pul-*

MINT.

gium, or pennyroyal. These are so well known as to render description superfluous. They are propagated with great ease by cuttings, parting the roots, or by offsets.

For culinary purposes, the spearmint is considered superior to the other two; but for medicinal purposes, the peppermint and pennyroyal are by far the most valuable. A conserve of the leaves is very grateful. There are waters distilled from the leaves; and either in a simple or spirituous state, they are almost universally thought pleasant. The leaves are often used in spring salads: the juice of them, boiled up with sugar, is formed into tablets, or lozenges. By some it has been imagined that fomentations of mint would dissolve and remove coagulations, or settled collections of milk in the breasts; but Dr. Lewis says, that the curd of milk, digested in a strong infusion of mint, could not be more affected than by the influence of common water.

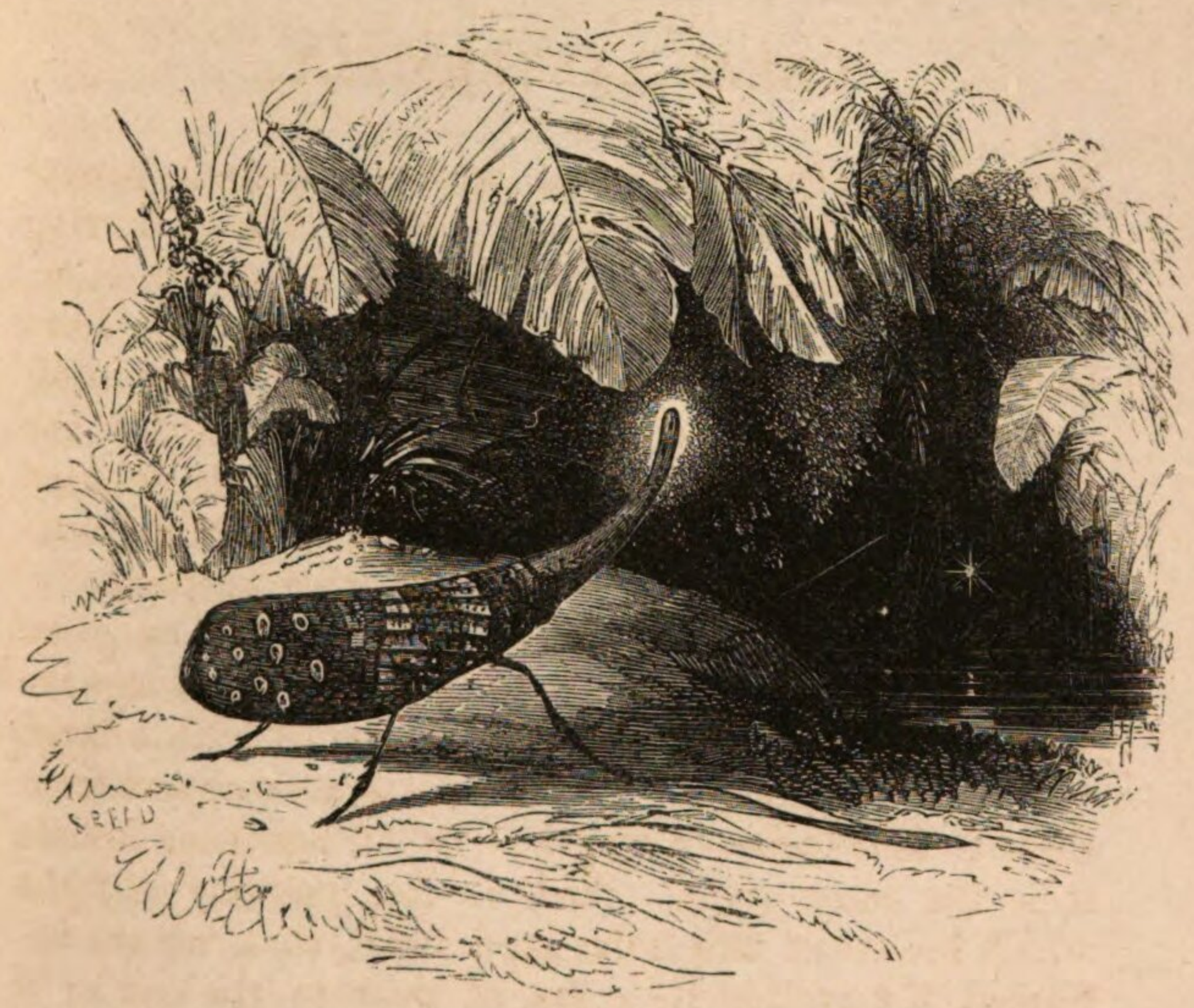
The medicinal virtues of mint are those of a warm stomachic and carminative, that is, diluting and relaxing. In loss of appetite, nausea, and continued reaching to vomit, there are few simples of equal efficacy. In severe inward sudden pains, to which children are subject, this plant is frequently of great service.

All this proclaims the goodness of God! There is scarcely a malady for which he hath not provided a remedy.

GREAT LANTERN-FLY.

THERE is a very considerable family of winged insects belonging to the tribe of *lantern-flies*. The following marks are common to them all:—the head is hollow, inflated, and extended forward; the antennæ have two joints, and are seated below the eyes; the beak is four-jointed, inflected, or bent inwards under the body; the beak is besides a jointed sheath, situated in the mouth, and it contains bristles, used in extracting juices from plants, as well as for other purposes.

The head of the FULGORA LANTERNARIA, or *great lantern-fly*, is large and somewhat oval. The wings are variegated; and the lower pair is marked with a large spot resembling an eye. The insect is sometimes seen from three to four inches in length. Of all luminous insects it is the most vivid. Such is the quantity of light which insects of this tribe send forth, that, we are informed, if travellers tie a few of them to the end of a stick, they will afford them a sufficiency of light to show them their way in the darkest night. It is on this account the insect receives the name of the *lantern-fly*. It is common in many parts of South America, and also in Surinam. Madam Merian, in her work on the insects of Surinam, gives a most interesting, and even amusing, account of this fly. Before she was acquainted with their luminous and bright na-



THE GREAT LANTERN-FLY.

ture, she was on a certain occasion much alarmed by the sudden and unexpected flashing of light which proceeded from them in the dark. She says, "The Indians once brought me, before I knew that they shone by night, a number of these lantern-flies, which I shut up in a large wooden box. In the night they made such a noise, that I awoke in a fright, and ordered a light to be brought, not being able to guess whence the noise proceeded. As soon as I found it came from the box, I opened it, but was still more alarmed, and let it fall to the ground in my fright, as seeing a flame of fire issue from it; and as many animals came out, so many different flames appeared. When I found this to be the case, I recovered from my alarm, and again collected the insects, much admiring their splendid appearance." She adds, "that even one of these insects will afford light sufficient to read a newspaper by it."

It is very singular, that the head is the only part of the body from which the light emanates.

How astonishingly varied are the works of God! He who gives glory to an archangel, condescends to give shining brightness to an insect.

MYRRH.

מור, MUR. *Bitter.*

EXOD. XXX. 23.—"*Take thee also unto thee principal spices of pure myrrh.*"

ACCORDING to Bruce, the celebrated traveller, the plant from which *myrrh* is extracted, belongs to the genus *mimosa*, and grows in Abyssinia and Arabia.

The gum which exudes, or drops from it, is in the form of tears. It is of a reddish yellow colour; sometimes it is transparent, but more frequently opaque. The taste is lightly pungent and bitter, the flavour aromatic, but not sufficient to prevent its being nauseous to the palate. The smell is strong and disagreeable. This gum, or resinous juice, formed a part of the composition of the oil of holy ointment which was used by the divine command in the tabernacle, and afterwards in the temple, during the Levitical and Old Testament dispensation. Among the ancients it was commonly used in the composition of their most costly ointments. They used it also as a perfume, to give an agreeable fragrance to vestments and beds. The females carried it in little caskets in their bosoms.

Myrrh is possessed of very considerable medical virtue. It is well calculated to warm and strengthen the viscera, and to dissolve juices which are thick and tenacious. It generally promotes the fluid secretions.

MYRRH.

It is very serviceable in languid cases, and in diseases arising from simple inactivity. It is also of great service in those female disorders which proceed from a cold, sluggish indisposition of the humours; and in those cases where the lungs and thorax are oppressed by viscid phlegm.

Myrrh is also supposed to resist putrefaction in every part of the body in a very peculiar degree. In this light it stands recommended in malignant, putrid, and pestilential fevers. It has been found of great use in that most dreadful malady, the smallpox, in accelerating the eruption.

Let us admire the rich provision which God has made in his goodness for alleviating and removing those maladies to which the human frame is liable by sin. In all directions herbs are produced from the earth, which, when known, are used as powerful and effectual antidotes to the most violent and dangerous maladies which can affect the human race.

There is a very fine aromatic flavour which is extracted from this herb by rectified spirit.

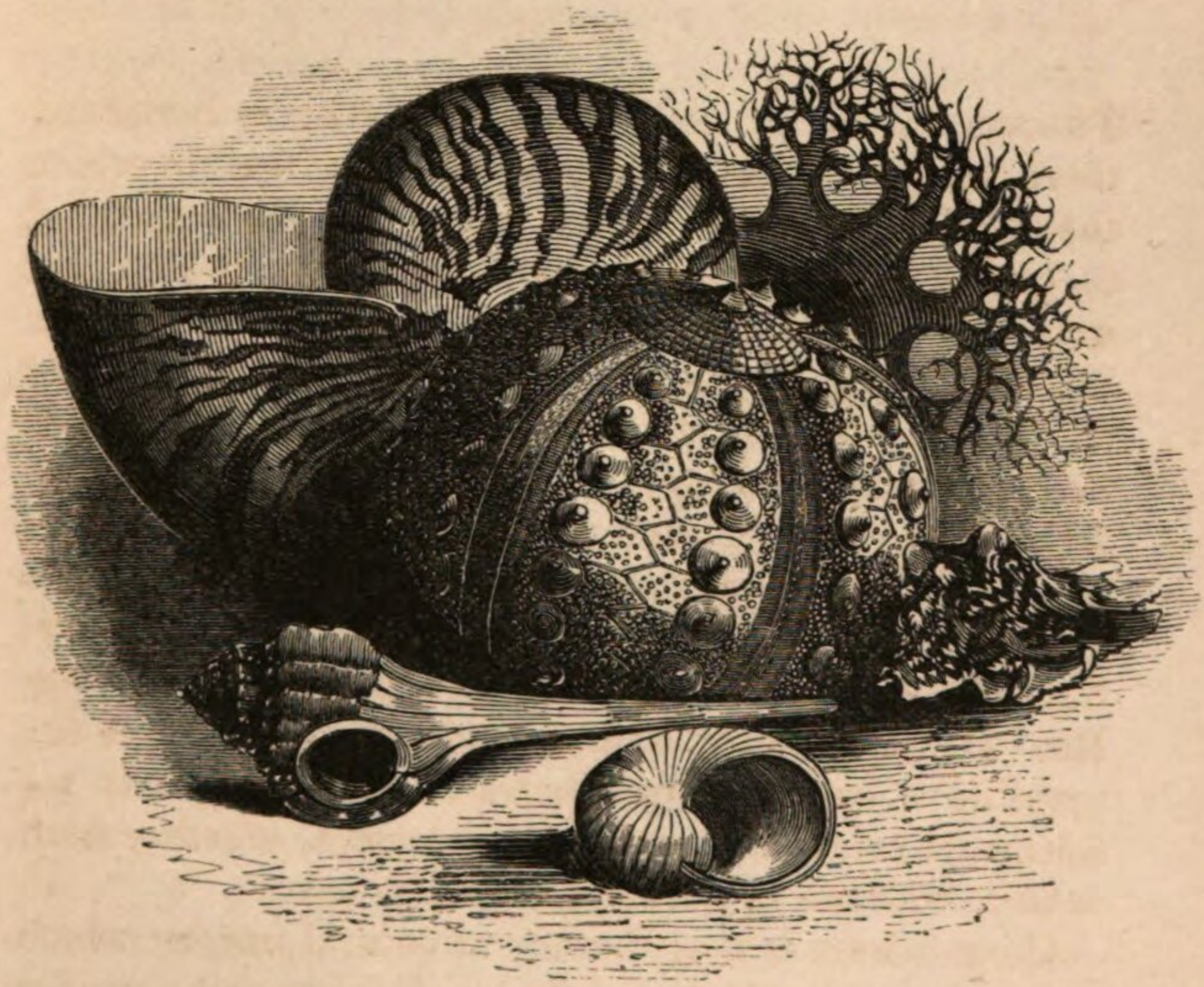
It may be remembered, that the magi, or wise men who came from the East, to see and to worship the infant Saviour at Bethlehem, among other precious commodities, made him a present of myrrh. And a decoction of myrrh was presented to Jesus on the cross.

FISH.

SHELLS.

THOUGH the word *shell* is not met with in Scripture, there are words and expressions not a few, in which the *word* is included, and by which we are warranted to give some account of this remarkable, lovely, and infinitely varied production, a place in this work. Shells do not exclusively belong to the inhabitants of the waters; several species of snails are provided with this protecting covering, and also the tortoise, and armadillo, or dasypus. Classes of amphibious animals are also protected by shells of such strength as to defy the stroke of the sabre, or the spear, or even the shot of musquetry. Such is the crocodile, the alligator, and the rhinoceros. But to the greatest extent, shells are found to be the covering of immense multitudes of creatures whose residence is confined to the liquid element, whether fresh or salt, whether in lakes, or rivers, or seas.

CONCHOLOGY is that branch of natural history which treats of shells, which distributes, divides, and classifies them into their different genera and species, and which describes the character, economy, and habits of those animals which inhabit them. A very little attention and thought will show, that it is a subject of immense interest, and at the same time exceedingly amusing and profitable. How evident the truth of this remark,



SHELLS.

when we attend to the variety of forms which shells exhibit, and to the splendid and matchless richness of their covering. On this account we need not be surprised that they have obtained a conspicuous place in the most celebrated and valuable public collections, and that they have attracted the notice of the curious observer. However interesting the colour, size, and shape of shells, these are insignificant when compared with the history of the nature, economy, and habits of those animals with which they are connected, and *to which* they are so wonderfully and wisely adapted.

Shells, chemically examined, are found, like bones, to consist of calcareous salts united to a soft animal matter. In them, that is, the *shells*, the lime is united chiefly to carbonic acid; whereas, in bones, it is phosphoric acid: in shells the chief substance is carbonate of lime, in bones, phosphate of lime.

Shells have been divided into two classes; the first is called *porcellaneous*, resembling porcelain, and having an enamelled surface, often most finely, beautifully, and even gorgeously variegated. The second class consists of shells usually covered with a strong epidermis, or *scarf-skin*, below which lies the shell in layers, and composed entirely of the substance well known by the name of mother-of-pearl.

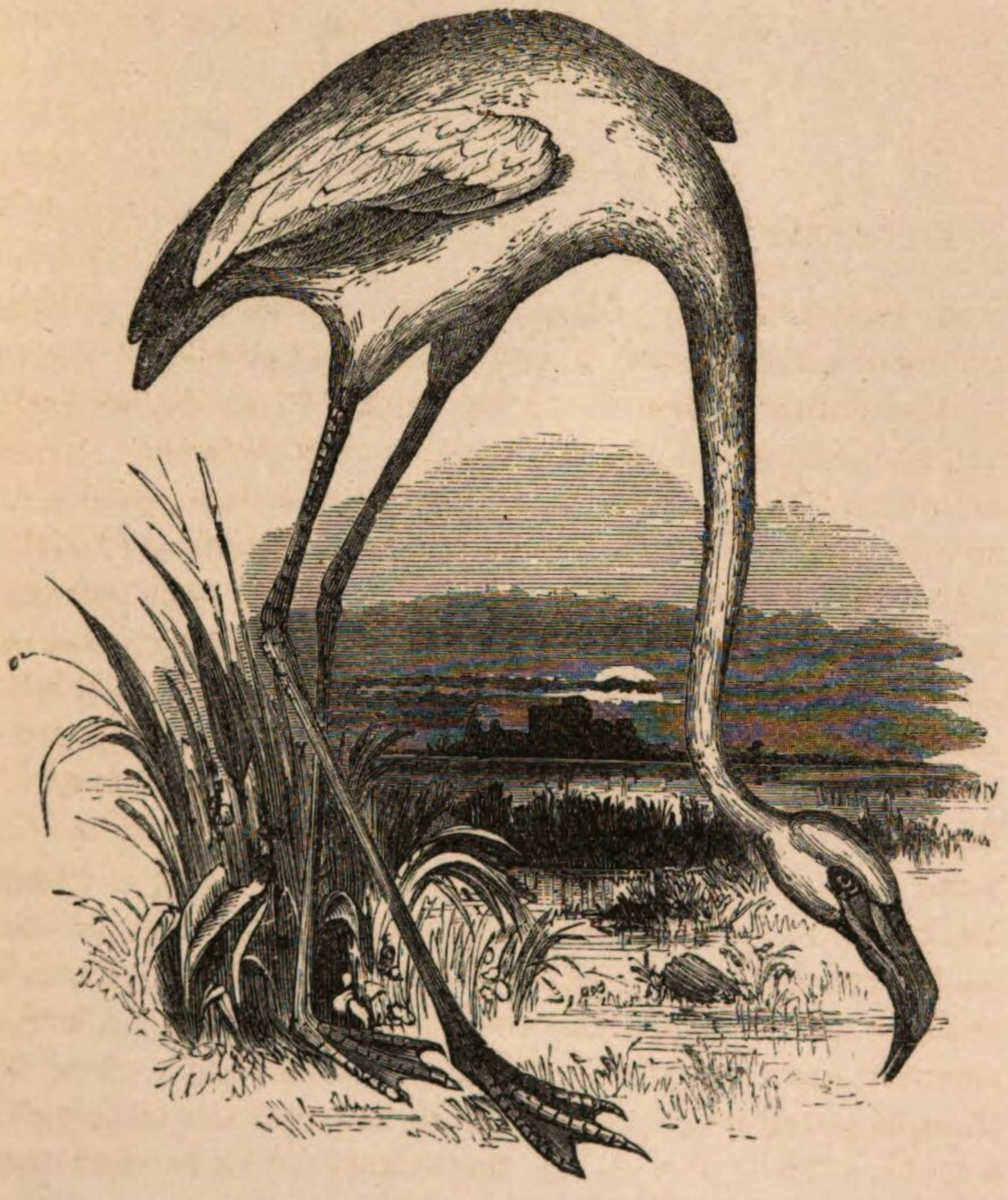
CLEAN BIRD.

FLAMINGO.

DEUT. XIV. 11.—"*Of all clean birds ye shall eat.*"

THE FLAMINGO, or *phœnicopterus*, in ornithology, is a genus of birds belonging to the order of *grallæ*.

The flamingo resembles the heron in shape, excepting the bill, which, in its form, is very peculiar. It is two years before it reaches its perfect colour, which is wholly red, except the quill-feathers, which are black. The name flamingo is given from its red and flaming appearance. The weight, when full grown, is that of a duck; and when it stands erect, it is five feet high. As it is aquatic, its feet are webbed; Providence uniformly adapting creatures to their nature and mode of life. The flesh is delicate, and much resembles that of a partridge. The luxurious ancient gormandizing Romans knew the excellence of this bird for the purposes of the table, and held it in great estimation. What is very curious, these birds make their nests on hillocks, a little elevated above shallow water, on which they sit with their legs extended downwards, like a man sitting on a stool. They prevail on the coasts of Cuba, and the Bahama Islands, in the West Indies. They only frequent salt water. Its mode of eating is very singular: by the particular shape of its bill, in eating, it twists its neck from side to side and makes the upper man-



THE FLAMINGO.

dible touch the ground. They are very stupid, and will not even rise at the report of a gun. Besides, it is no warning to the survivors to see their slain associates, or offspring, lying dead at their feet. If a fowler keeps himself out of sight, he may kill as many as he pleases with the utmost ease. Their food chiefly consists of small fish, or the spawn of fishes, and also water-insects, which they diligently search after by plunging in their bill and part of their head. While feeding in groups, one of them stands sentinel, and when he gives the alarm, the whole flock takes wing. When this bird takes rest and sleeps it stands on one foot, the other being drawn up close to the body, with the head placed under the wing on that side of the body on which it stands, and thus enabling it to preserve its equilibrium.

These beautiful birds were held in high estimation by the ancient Romans, who often used them in their grand sacrifices and sumptuous entertainments. Pliny, Martial, and other writers, celebrate the tongue as the most delicate food which can be prepared for the human palate.

Of the *tongue* of the just man it is said, "It is as choice silver, but the *heart* of the wicked is little worth."

FISHES.

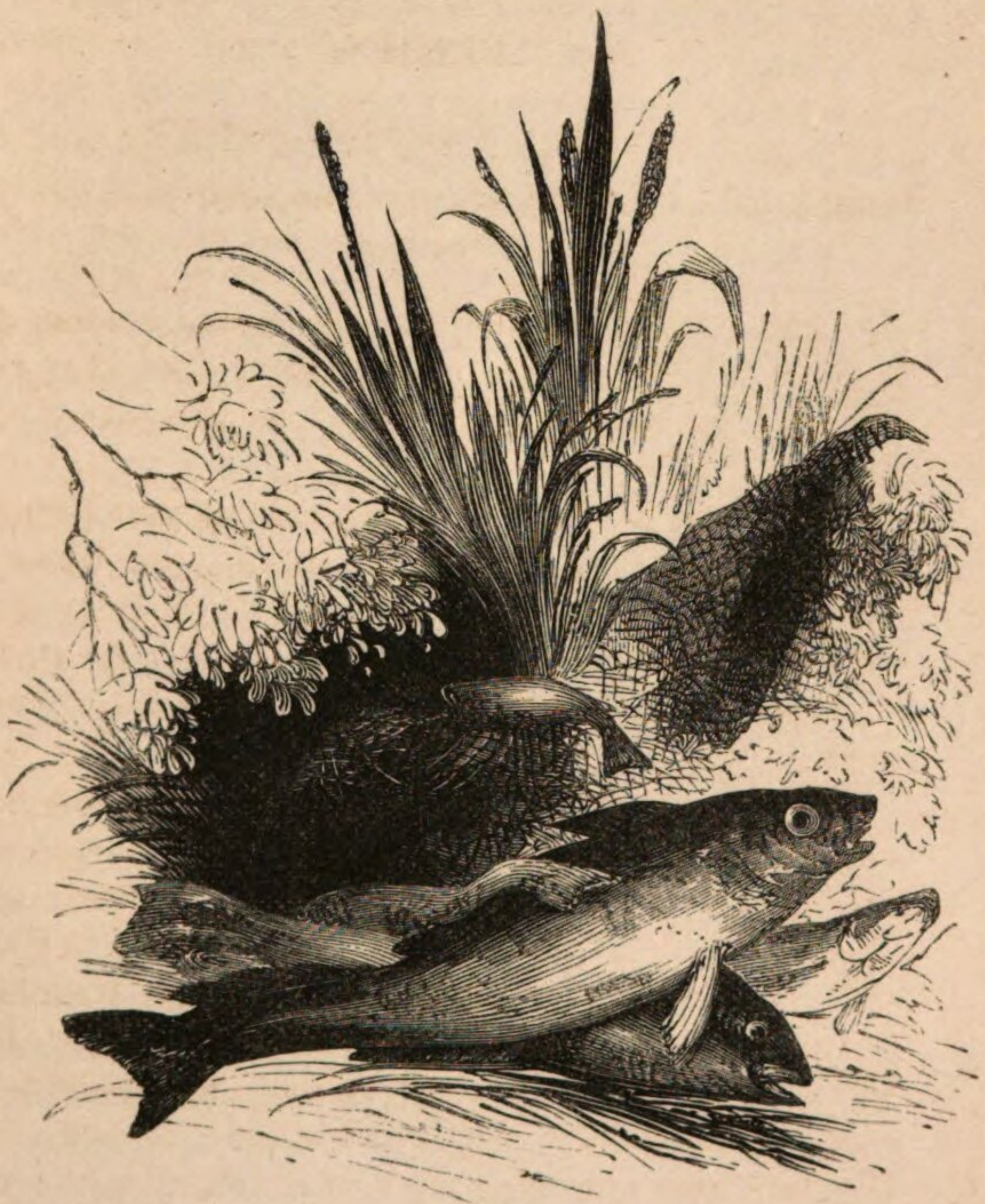
דג, DAG. *Exceeding increase.*

GEN. I. 26.—"*Let them have dominion over the fish of the sea.*"

THE name *dag*, signifying *increase* in an *exceeding degree*, is given to fish because of the literal fact, that one female fish in various species may be the parent of millions.

In natural history, *fish* is an animal that lives in the waters as a natural place of its abode. And how wonderfully and wisely God has fitted the fish for the water and the water for the fish. In this, as well as in everything else, we see the demonstrative proofs of wise design.

The general division of fishes is, into *fresh* and *salt* water fishes. Some are of opinion, that the natural original residence of all fishes is the salt water, and that they only visit the fresh by accident. A few species only swim up into the rivers to deposit their spawn: of these the *salmon* is the most remarkable. In pursuing their upward course, when they come to cataracts, or waterfalls, very considerable in their height, they are seen springing up with extraordinary muscular agility, surmounting every obstacle, and reaching at last some favoured spot where they deposit their spawn, the embryo of successive generations.



FISHES.

Linnæus says there are four hundred species of fishes of which we know something; but the species of which we know nothing are considered much more numerous, as they are thought to lie in great depths of the sea, very remote from land. It is therefore very probable that of many species we shall remain for ever ignorant.

Great wisdom appears in the structure of fishes, being admirably formed for rapidity of motion through the element in which they live. Generally they are sharp at either end and swelling in the middle, by which they are able to traverse the fluid in which they reside with great ease and astonishing velocity. The movement of the swiftest steam-ships is slow, when compared with the celerity of the movement of fishes.

Fishes are considered the most ferocious animals in nature. A single *pike* has been known to devour one hundred roaches in three days.

The fruitfulness of fishes is marvellous. At one time the *mackerel* will produce more than five hundred; the *flounder*, above one million; and the *cod*, above nine millions in one season.

In Scripture men are compared to *fishes*, and fishes of the great sea. (Hab. i. 14—17.) They are so compared because of their number; because of the difference of their courses and tempers; because they often live in a confused and disorderly manner; often prey upon one another; and are taken in the net of temptation. (Eccles. ix. 12.)

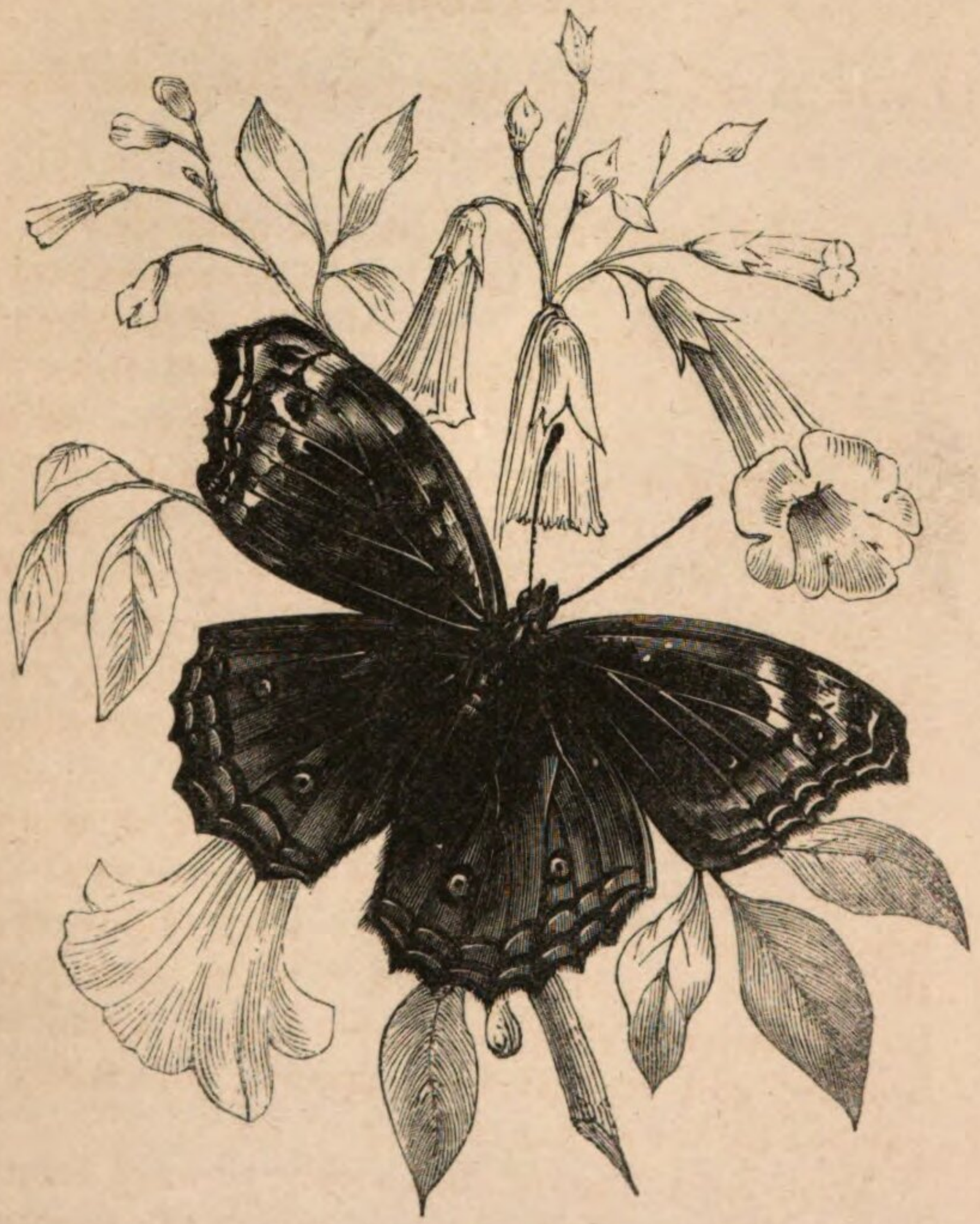
BUTTERFLIES.

LEVIT. XI. 23.—"*All other flying things that have four feet.*"

IT is said respecting the lilies, and other flowers of the field adorned with the most lovely, agreeable, and variegated colours from the hand of God, "Solomon in all his glory was never arrayed like one of these." The costly ornaments of the robes of queens are not worthy to be compared with the beauty of the humble violet, which hides its loveliness among the herbage of the meadow. What is said of flowers is equally applicable to butterflies, and the inimitable loveliness with which their bodies and their wings are so profusely adorned: "Solomon in all his glory was never arrayed like one of these."

The PAPILIO, or *butterfly*, in zoology, is a genus of insects belonging to the order of *lepidoptera*. It has four wings imbricated with a kind of downy scales; the tongue is convoluted in a spiral form; and the body is covered with the finest hair. There are two hundred and seventy-three species, principally distinguished by the colour of their wings.

These most elegant and richly adorned insects subsist on the most delicious food which the bounty of the Deity has provided, namely, on the nectar of flowers, and on the moisture which exudes from plants and



THE BUTTERFLY.

trees: these are extracted by means of their long proboscis, or tongue.

The large white butterfly is a species with which we are well acquainted, and which even attracts the attention of little children. How often do we see them highly amused, pursuing in the meadow those beautifully adorned insects. In the caterpillar state it is an insect very destructive to cabbages and cauliflower-plants. What a difference betwixt its appearance as as a loathsome worm and its future appearance, when provided with wings, and in some measure an inhabitant of the aërial regions. Far more wonderful the difference betwixt the saint, as now an inhabitant of this earth, and as afterwards an inhabitant of the celestial world. "It doth not yet appear what we shall be; but when he shall appear, we shall be like him, for we shall see him as he is."

There is another butterfly called the purple emperor; this is the most beautiful of all the butterflies met with in this country; it is not only most lovely, but in its manners most interesting. Mr. Haneworth, a celebrated naturalist, says, "That in its manners, as well as in the varying lustre of its purple plumes, it possesses the strongest claim to our attention. He commences his aërial movements from ten till twelve o'clock in the morning, and at noon reaches his loftiest elevation."

SNOW.

שלג, SHELEG. *Dazzling brightness.*

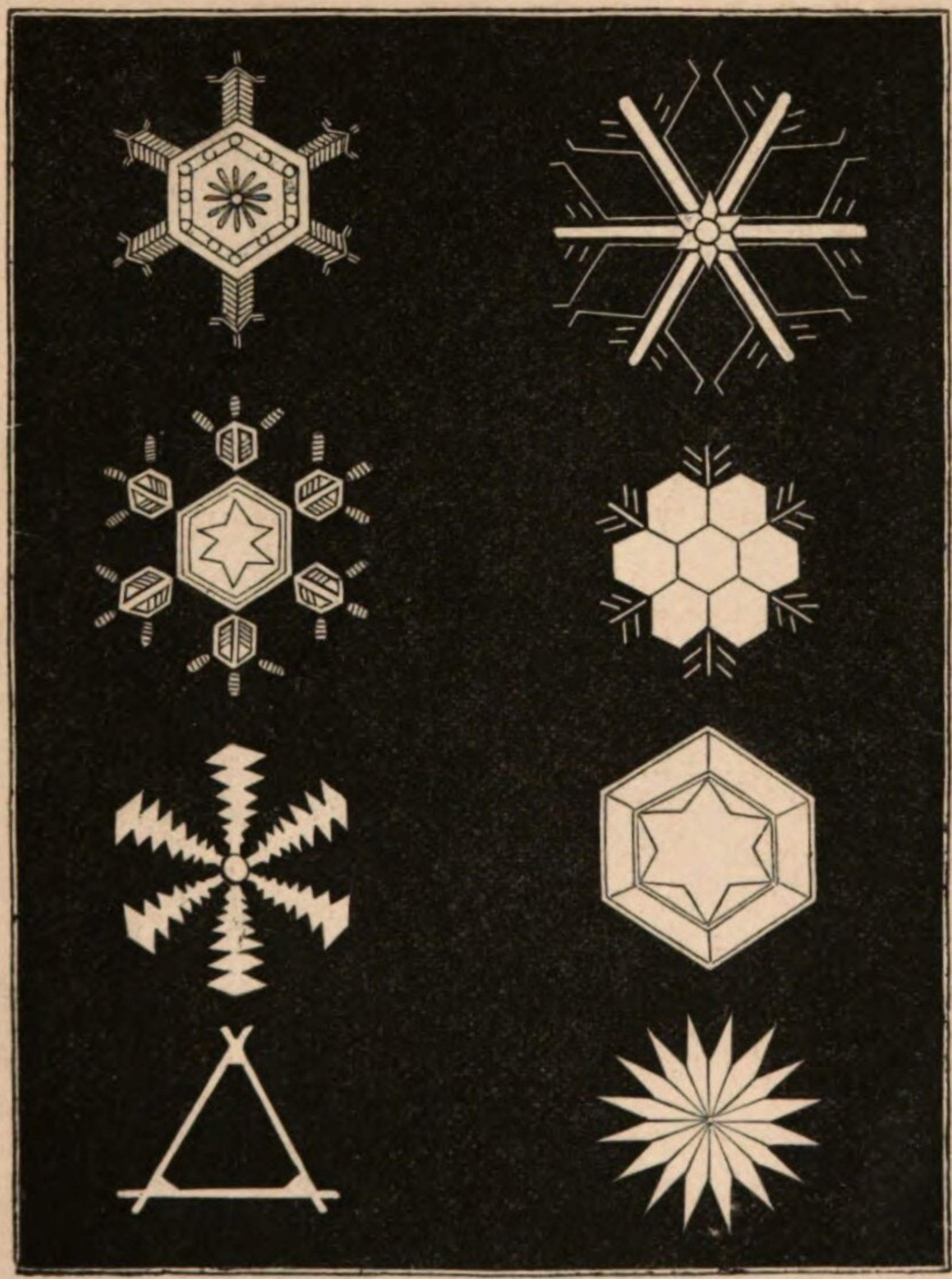
PSALM CXLVII. 16.—"*He giveth snow like wool; he scattereth the hoar-frost like ashes.*"

SNOW is the name given to the watery vapour in the aërial regions when frozen during its descent to the earth.

When carefully and minutely examined, snow is found to be a congeries of an immense number of separate, distinct, and transparent crystals of ice. The white, woolly appearance which the snow presents is owing to the same cause as the whiteness of froth, or of painted glass; namely, to the accumulated light which each crystal reflects to the eye of the observer: each flake of snow consists therefore of a very considerable quantity of distinct crystals, most beautifully and regularly formed; yea, as perfect and mathematically accurate as the wheel of the most accurate and complete chonometer! How amazing!

When the snow falls during frost the flakes are always less, but when the air is warm they are much larger in size. In the month of July, 1819, in the neighbourhood of Edinburgh a slight shower of snow fell, in which the flakes were fully *two inches* and *a half* in length.

In America snow is occasionally found in balls and



SNOW.

cylinders. Some have been seen from one to fifteen inches in diameter. The shape of the smaller ones is nearly spherical, and that of the larger somewhat oval.

The different forms of the crystals of snow furnish a most interesting and extensive field for the contemplations of the Christian student and philosopher. Indeed, the forms, with their most lovely and perfect symmetrical shapes, may be considered endless. Descartes and Dr. Hook seem to have been among the first who observed and delineated the elegant figures of these crystals. The general size of the particles which exhibit these elegant figures is from one-fifth to one-twentieth of an inch. Some in their formation are lamellar, consisting of exceedingly thin films, and these are seen in a variety of most lovely figures. Others appear in the form of fine spiculæ, or six-sided prisms. The most remarkable crystals are those which display the figure of prisms, having one or both extremities inserted in the centre of a lamellar crystal: this form has only been observed twice: it resembles a pair of wheels united by an axle-tree.

In Scripture the purity and whiteness of snow are employed as emblems of freedom from corruption and guilt. Hence the royal Psalmist prays, (Psalm li. 7,) "Purge me with hyssop, and I shall be clean; wash me, and I shall be whiter than the snow."

BIRDS' NESTS.

MATT. VIII. 20.—"*The birds of the air have nests, but the Son of man hath not where to lay his head.*"

THE instinct and sagacity which birds discover in building their nests, in the places they select as the most secure from the reach of enemies, and in avoiding plants which are noxious, are truly prodigious. It is said that they will not so much as touch or perch on those plants, being warned of the danger by the *effluvia*, or smell, rising from the plant. Would to God that human beings were as ready to take warning from the dreadful and fatal consequence of contiguity to the corrupting and fascinating temptations of a carnal world!

There is a marked difference in the nests of the numerous and distinct species of birds; but they are all made suited to the nature of the young for whom they are provided. Some consist of a few sticks, without any soft covering, while others exceed in softness and elegance the beds prepared for infant princes. Certain Indian birds suspend their nests to branches hanging over flowing streams, to secure their eggs and young from the ravages of apes, monkeys, and other beasts of prey, which would otherwise fall upon them and destroy them. Such, too, is the elegance of many nests, that human art is scarcely able, with all its ingenuity,

BIRD'S NEST.

to form a structure at all wortny of comparison with the residence reared by winged tribes.

The nest of the small Indian swallow is very singular in its composition. Some may be startled when we tell them that this species of nest is actually used in *cookery;* that it is considered a delicious rarity, and in some parts of the earth is a very considerable article of trade and commerce. On the sea-coasts of China, at certain seasons of the year, there are seen vast numbers of these birds. They leave the interior of their country at their breeding time, and come to build in the rocks: their nests are formed by them out of a spumous matter, which they find on the shore, washed thither by the waves: the nests are of a hemispheric figure, about the size of a goose's egg, and in substance much resembling isinglass. The Chinese gather these nests and sell them to all parts of the world. They dissolve in broths, and make a kind of jelly of a very delicious flavour.

The Scriptural allusions to nests are striking, appropriate, and useful. We cannot read, without interest, the Psalmist's allusion to the nests of the swallow and the sparrow: (Psalm lxxxiv. 3:) "Yea, the sparrow hath found an house, and the swallow a nest for herself, where she may lay her young, even thine altars, O Lord of hosts, my king, and my God."

SAFFRON.

כרכם, CARCOM. *To tinge with a yellow colour.*

SONG IV. 14.—"*Spikenard and saffron, calamus and ointment.*"

SAFFRON, or *crocus*, is an early plant, growing from a bulbous root, from which arise stalks bearing a blue flower. In the middle of this flower there are three little golden-coloured filaments, or threads, which, by druggists, are called *saffron*.

The *crocus* is a genus of the *monogynia* order, belonging to the *triandria* class of plants. The varieties which this genus comprehends are not only exceedingly numerous, but remarkably beautiful. In the very early period of spring, this plant is the successor, and even the companion of the snowdrop, and never fails, when it opens its loveliness to our eye, after the gloom and heartless sterility of winter, to fill the admiring observer of nature with the most exquisite enjoyment. The snowdrop, and then the crocus, proclaim the goodness of God, that he has not forsaken our world, and that he is about to revisit us with the periodical displays of his gracious, providential, and unmerited beneficence.

This plant hath a small, roundish, bulbous root, compressed at the bottom. Directly from the root issue many long, narrow leaves of a deep green colour. From the bosom of these leaves the flowers are sent

SAFFRON.

forth from a thin, univalvular, radical spatha. The tube of the flower is long, standing on the root.

There are two varieties in particular of this plant; the autumnal and vernal: there is the *crocus officinalis*, or saffron of the shops, belonging to the autumnal: this hath a long-tubed, bluish, purple flower, already noticed: there is also the autumnal small blue crocus, the deep blue, the sky-blue, the many-flowered whitish blue, the purple, the autumnal white crocus, and the autumnal yellow crocus.

The varieties of the vernal crocus are the small and large golden yellow crocuses, and the yellow black-striped, the yellow purple-striped, and double cloth-of-gold ones; the white purple-striped, with a considerable number of others of a blue and purple colour, finely variegated.

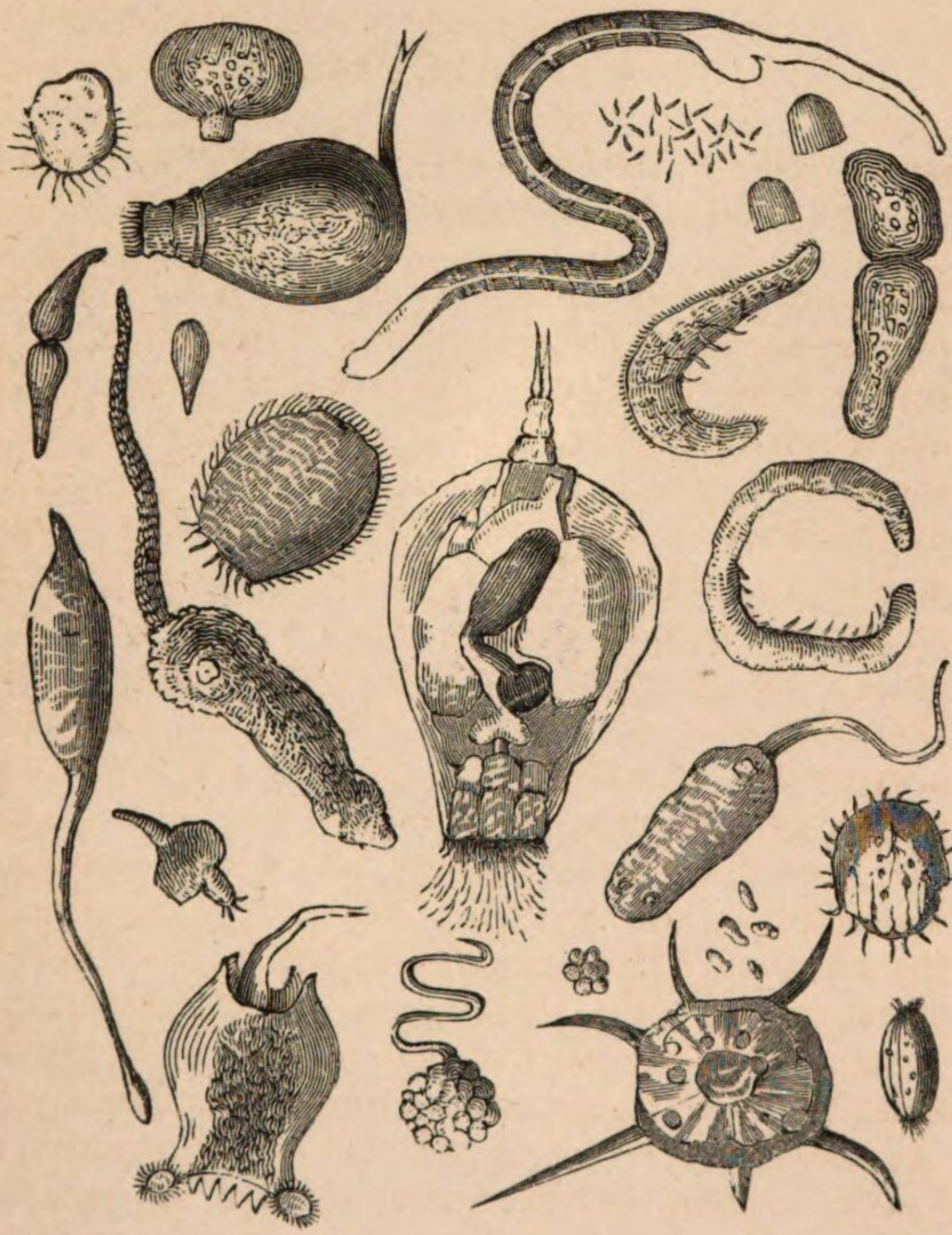
The autumnal crocuses flower about the beginning of October; but in this country their seeds never come to maturity. They are very beautiful, if sown in patches in the front of borders, or even in beds by themselves. They are most suitable ornaments of gardens of any extent, as making their appearance and displaying their beauties when most other flowers have gone to decay. They grow freely in any kind of soil, and may be propagated by offsets. The vernal kinds flower in February, March, and April.

May our hearts be adorned with those divine graces which shall never fade away, like the colours of flowers, but flourish in eternal glory!

ANIMALCULES.

GEN. I. 20.—"*And God said, Let the waters bring forth abundantly the moving creature that hath life.*"

THIS command of the great Almighty Jehovah has a respect to those living creatures which exist in the waters, from the whale of overwhelming and sublime magnitude, downward to the innumerable millions of animalcules, which are too diminutive to be even seen by the human eye without the assistance of a powerful microscope. How astonishing to think of these two extremes of aquatic beings! One is so large as to require a *sea* in which to move, but the other so small that thousands of them can swim about with ease in a single *drop* of water. For many ages this was a fact altogether unknown. By the kind providence of God, the invention of the *telescope* was given to man, by which he can see myriads of distant worlds, objects of the most stupendous magnitude, formerly invisible and unknown. By the same benevolent and gracious providence, the invention of the *microscope* is given to man, by which he is enabled to see countless myriads of animated creatures of different forms, manners, and habits, teeming in the watery element in quantities, which baffle the calculations of arithmetic, and which can only be comprehended by that glorious Lord God who hath called them into existence.



ANIMALCULES.

There was a time when a mite was thought to be the smallest, the most minute of animated beings; but the microscope has drawn aside the veil by which, for thousands of years, the most numerous portion by far of the animated family of God was concealed from human view. But what have we found out by the assistance of the microscope? That there are living creatures, yea, distinct tribes and families of animals, many millions of times smaller than a mite.

Such is the power and compass of the naked eye, that it takes in from the whale and elephant to the mite. But a new order commences, which is reserved for the microscope; and this comprehends all those from the mite to these which are believed to be twenty-seven millions of times smaller. We cannot say the microscope has reached its utmost limits of perfection; therefore the strong presumption is, that there are countless tribes of still more diminutive living creatures which have hitherto defied the search and cognisance of man.

As to those which are known, philosophers assert with certainty, that many thousands of animalcules may dance on the point of a needle. Lewenhoec calculates, that a thousand million of animalcules found in common water are not altogether so large as a particle of sand.

CASSIA.

קדה, KIDDAH. *To bow the head.*

PSALM XLV. 8.—"*All thy garments smell of myrrh, and aloes, and cassia, out of the ivory palaces whereby they made thee glad.*"

THE name *cassia* is given both to the tree and the bark, which is peculiarly aromatic and pleasant.

In botany we find that *cassia* is a word applied to fruit, to bark, and to trees. There is in medicine a purgative fruit called *cassia*, brought from the East, and being the produce of a tree of the same name, called in England by the fantastic name of the *pudding-pipe-tree*.

The CASSIA is a genus of the *decandria monogynia* class. The flower has five roundish, concave petals, which spread open, and it hath declining stamina; in the centre is situated a long taper germen, and which afterwards becomes a pod, divided by transverse partitions, each containing one or two roundish seeds fastened to the margin of the upper valve. There are sixteen species, of which we may notice the following:—

The CASSIA of the *Levant*. This tree is very high, the bark is ash-coloured, its wood firm, its grain close, towards the centre nearly as black as ebony, and yellowish near the circumference: the flowers are yellow, and produce a fruit in form of a long pod, round and

CASSIA.

massive, of a reddish colour bordering on black ; when ripe it is full of a black, sweetish pulp, divided by little, woody cells.

The CASSIA of *Egypt* resembles that of the Levant, except that it is higher, the leaves narrower, the fruit smaller, and the bark softer.

The cassia mentioned in Scripture is not the tree, but the bark of the tree. Its botanical name is CASSIA *lignea*. It is the bark of a tree much resembling that which bears the cinnamon ; it grows promiscuously with the cinnamon in the island of Ceylon. The ancients had two kinds of this bark, the cassia surinx, and the xylocassia ; but they were only the names of the same thing collected in a different manner. The two barks are gathered and dried in the same way ; in smell and taste they are nearly alike ; they are equally sweet, poignant, and agreeable, and scarcely any difference in their colour, form, or thickness.

The fragrant cassia, which is believed to have been the bark of a tree, was one of the sweet spices from which the holy anointing-oil was extracted by divine appointment. It was sometimes used to perfume garments. Thus it is introduced in the forty-fifth Psalm, in the very poetical and figurative account given of Christ's mediatorial garments. It may also signify the influences of the Holy Spirit, which are both savoury and medicinal.

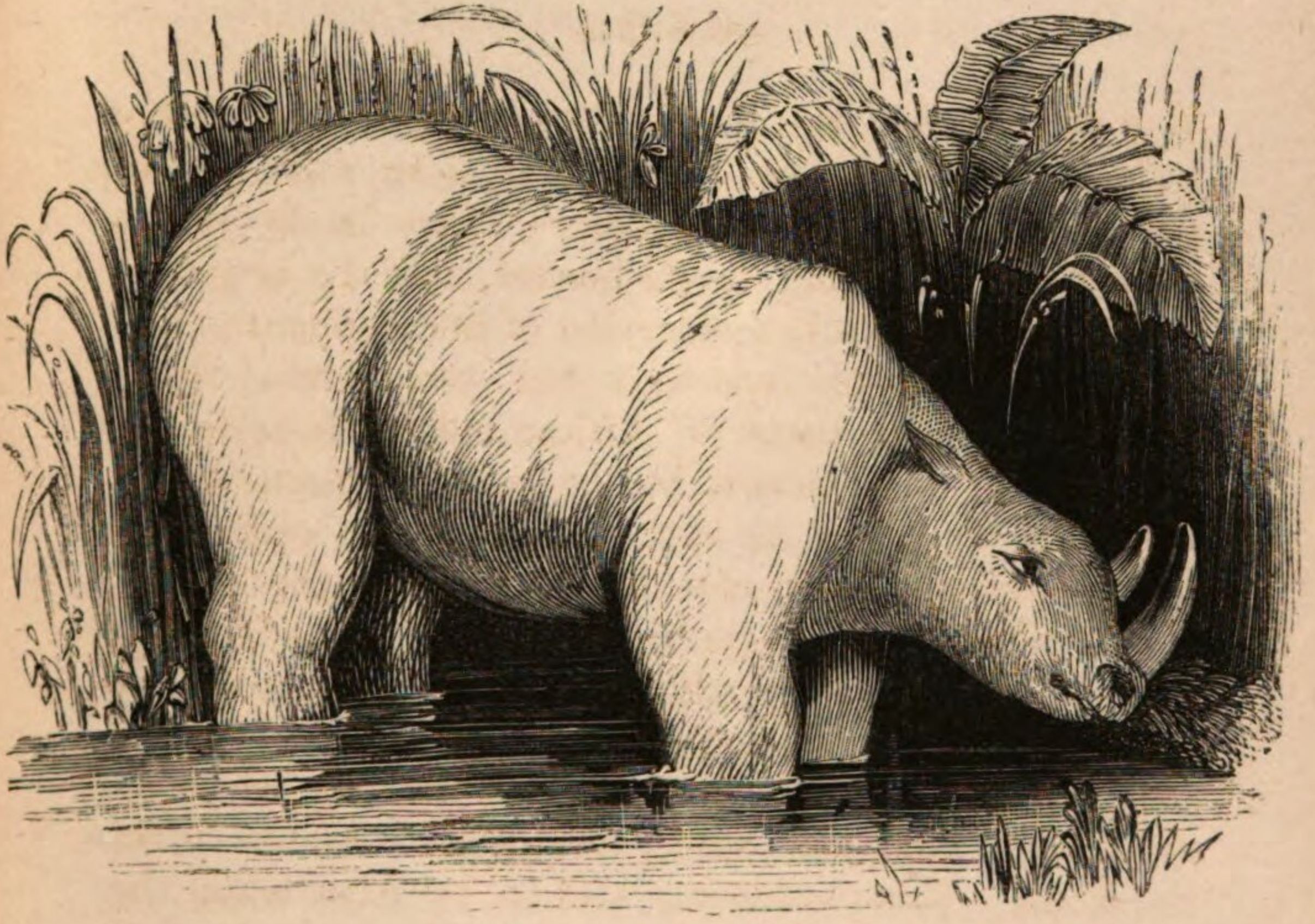
DOUBLE-HORNED RHINOCEROS.

JOB, XII. 7.—"*But ask now the beasts, and they shall teach thee.*"

THE RHINOCEROS is a genus of quadrupeds of the order *bclluæ.* Their generic character is, horn solid, perennial, conical, seated on the nose. There is the *rhinoceros unicornis*, being single horned, and the largest of land animals, with the exception of the elephant.

The RHINOCEROS BICORNIS has two horns; it is found in various parts of Africa, and seems to be the kind which was known to the ancient Romans, and exhibited by them in their public shows and combats of animals. In size it is equal to the single-horned rhinoceros; in its habits and manner of feeding it is the same; but greatly differs in the appearance of the skin. The principal distinction consists in this, that the nose is provided with two horns, one of which is smaller than the other, and placed higher upon the front. These horns are said to be loose when the animal is in a quiet state, but the instant it is enraged, they become firm and immoveable, and ready for combat.

Bruce, the celebrated traveller, has furnished an interesting account of the manners of this animal. On the subject of feeding he says, "That besides the trees capable of most resistance, there are in the vast forests



THE DOUBLE-HORNED RHINOCEROS.

within the rains, trees of a softer consistence, and of a very succulent quality, which seem to be destined for his principal food. For the purpose of gaining the highest branches of these, his upper lip is capable of being lengthened out, so as to increase his power of laying hold with this in the same manner as the elephant does with his trunk: with this lip, and the assistance of his tongue, he pulls down the upper branches which have most leaves, and these he devours first: having stripped the tree of its branches, he does not therefore abandon it, but placing his snout as low in the trunk as he knows his horns will enter, he rips up the body of the tree, and reduces it to thin pieces as so many laths; when he has thus prepared it, he embraces as much of it as he can in his monstrous jaws, and twists it round with as much ease as an ox would do a root of celery, or any such pot-herb, or garden-stuff."

When pursued, notwithstanding his large cumbrous body, he can run with an astonishing swiftness.

The eyes of the rhinoceros are very small, and he seldom turns his head, and therefore sees nothing but what is before him. On this account his death is easily effected.

BADGER.

תחש, TACHASH. *Probably, sky-blue.*

EXOD. XXVI. 14.—"*And thou shalt make a covering for the tent of rams' skins dyed red, and a covering above of badgers' skins.*"

THERE is frequent mention made in the books of Exodus and Numbers of badgers' skins. By Divine appointment, the uppermost covering of the sacred tabernacle consisted of the skins of badgers, as being an excellent preservative against rain and other elements. Typically, this might represent the outwardly mean appearance of Christ and his church before the eyes of a carnal world, at all times more impressed with appearances than with realities. The skin of badgers was also used in making shoes, which were considered costly, and held in high repute. (Ezek. xvi. 10.) God, speaking by the prophet of his kindness to ancient Jerusalem, says, "I clothed thee also with broidered work, and shod thee with *badgers' skins*, and I girded thee about with fine linen, and I covered thee with silk."

The BADGER belongs to the genus *taxus;* its common length is two feet six inches, with the tail six inches in addition: the body is cinereous above, black beneath, and tail of the same colour with the body, and covered with long hairs.

THE BADGER.

This animal inhabits all the temperate and some of the colder climates of Europe and Asia. It is not uncommon in Great Britain, particularly in Sussex and Essex, and also in some of the inland counties of England. Its favourite haunts are found in woody tracts, the cliffs of rocks, and burrows which it makes for itself in the ground; thus showing at the same time an attachment to the loftiest and the lowest spots. While it has only one entrance from the surface to its subterraneous abode, it forms several apartments. In the breeding season it carries in grass in its mouth, with which it makes a bed for its young. During the severity of winter it remains in a half-torpid state, sleeping on a very commodious, comfortable bed of dry herbage. It is the peculiarity of this species of animals, and seldom found in others, that they live in pairs. The dam generally produces a litter in spring, consisting of four or five young ones. While young they are easily tamed, will play with dogs, and follow those by whom they are fed. In confinement they eat almost every description of food presented to them, sleep much, and soon become fat; they are very chilly, and in a tame state are always found near the fire.

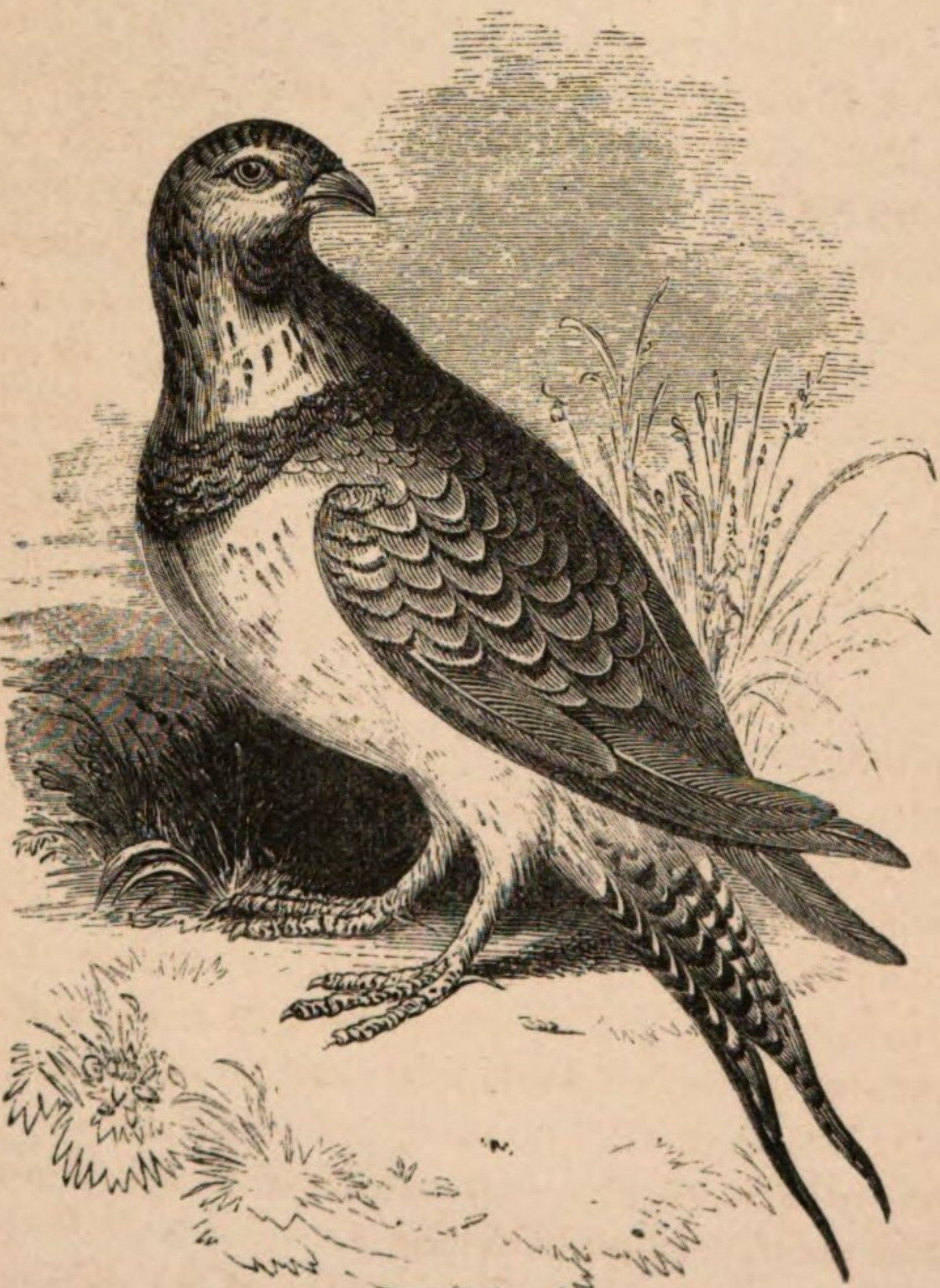
In China, badger's flesh is a very common article of food. The skin used with the hair on is formed into pendent pouches for our Highland soldiers.

FALCON.

LINNÆUS gives the following general description of that family, consisting of various species, known by the name FALCO, or FALCON. The head is covered with feathers, the beak hooked, and generally curved from its origin; the cere is coloured, more or less hairy at its base, the under mandible obliquely rounded, and both the mandibles sometimes notched; nostrils lateral and open; three toes before and one behind; claws pointed and sharp, much hooked, moveable, and retractile.

The PERIGRINE, or *common falcon*, is brown above, with rufous undulations; the tail marked with dusky bars; breast and belly whitish, with dusky spots. The male is in length a foot and two inches, and that of the female a foot and four inches, and the expanse of the wings three feet and a half. This bird of prey has much elegance of form, and a considerable share of outward beauty; all this covering a blood-thirsty, rapacious nature. In this it may be considered a figurative emblem of too many of the human race, who, under an agreeable exterior, cherish the vilest passions and the most hateful vices.

The falcon is found a native of the different regions of Europe, from the snow-clad mountains of Iceland to the fragrant islands of the Mediterranean Sea. It



THE FALCON.

frequents high and rocky eminences, and about the end of February builds its nest in bold, precipitous cliffs. There is hardly a part of the British coasts, where the cliffs rise to the height of three or four hundred feet, in which falcons are not found scattered in the breeding season, and from which they seldom retire, except as occasional migrants. The insulated rock on which Dunbarton Castle is built, is a favourite residence of the common falcon, and where, during time immemorial, they have prevailed in great nnmbers. The growth of the young is very rapid, as in three months they equal the size of their parents. They are birds of great courage, darting perpendicularly upon their prey with astonishing rapidity, which consists of partridges, pheasants, quails, wood-pigeons, and the smaller quadrupeds. They will even attack the kite and deprive him of his prey, without taking from him his life. The human robber is often less merciful, for in numerous cases he takes not only the property of the individual, but also his life.

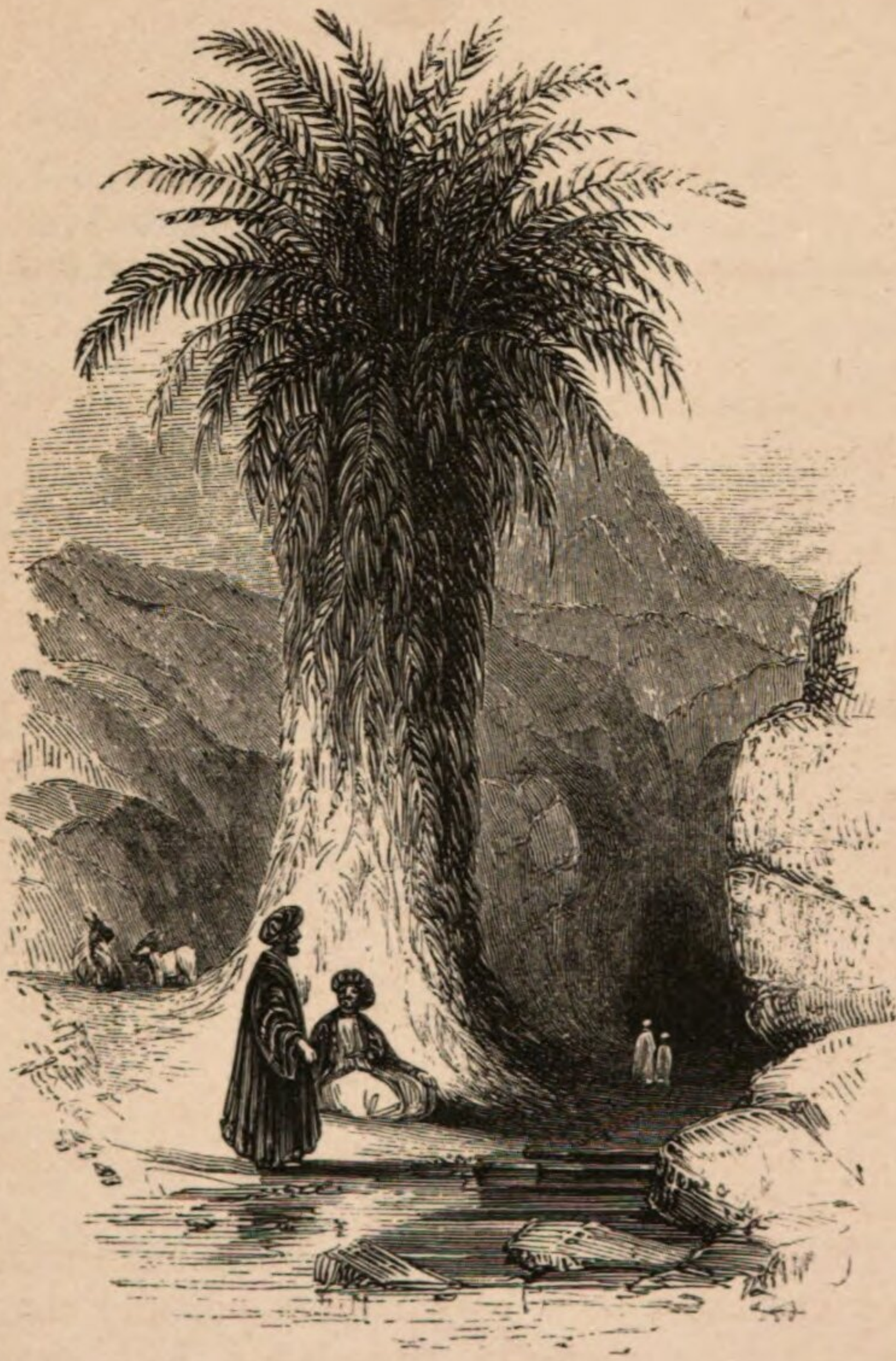
WILD DATE PALM-TREE.

Διόσπυρος, DIOSPUROS. *Fruit of Jove, or heavenly fruit.*

THE imagination of ancient writers has been much employed in furnishing romantic descriptions of this tree: the Greek name corroborates this statement: their opinion of this tree must have been of the highest description, when they considered it entitled to no less a name than the *fruit of Jove*, or *heavenly fruit*. Fanciful indeed was this name. We, who have the Bible in our hands, who are taught by the Spirit of God to discern the meaning of its sacred doctrines, and who believe and enjoy what we know, are acquainted with the *true heavenly fruit*, namely, the blessings of salvation, which are the delicious clusters which grow on the branches of the Tree of Life, the LORD JESUS CHRIST, who is the LIFE.

It has been fancied that the European species of this plant produced that famous fruit, which, according to ancient romances, caused oblivion.

The species of the wild date-tree are not numerous; they are trees with very hard wood, and the fruit is eatable when perfectly ripe, being both sweet and glutinous. In an unripe state it is powerfully stringent. The leaves are alternate, simple, and generally undivided. The flowers are yellow.



WILD DATE PALM-TREE.

One species is the *diospuros lotus*. The leaves are pale on the underside. It grows wild in the south-east parts of Europe; it can bear our climate in the open air, but the fruit never ripens. In Italy, however, it reaches a tolerable degree of perfection, and *there* is only held in estimation as a remedy for *diarrhœas*.

The study of botany furnishes ceaseless instances of the wisdom and benevolence of the Deity combined. In that immense kingdom, the vegetable kingdom, we see ample provision for the wants of man; trees furnishing food for his nourisment, and also the most invaluable medicines for alleviating or removing those maladies to which he is liable.

There is another species called the INDIAN PLUM-DATE. In botanical language, it is a genus of the *polygamia diœcia* class: it has, on separate plants, flowers partaking of male and female qualities conjoined, and other flowers only male: of the former, or hermaphrodite kind, the *germen* becomes a large globular berry with cells, each including one oblong, hard, compressed seed: the male flowers have the same calyx and flower, with eight short stamina, but have no germen.

OTTER.

Ενυδρις, ENUDRIS. *Frequenting the waters.*

ACTS, x. 11, 12.—"*And saw a certain vessel descending unto him, as if it had been a great sheet, knit at the four corners, and let down to the earth; wherein were all manner of four-footed beasts of the earth.*"

THE OTTER, or *lutra*, in zoology, is smaller than the beaver, and its body is longer and more slender: its tail is longer than that of the beaver, and is all covered over with hair: its legs are short in proportion to the size of its body; but they are strong, broad, and muscular: the joints have this peculiarity; they are articulated so loosely, that the animal has the power of turning them quite back with great ease, and bringing them on a line with the body, so as to perform the office of fins. As the animal is amphibious, the feet are provided with five toes each, which are naturally expanded, and are connected by a membrane like the toes of a web-footed fowl, and are all so equally distant, that there is no distinction of any in the place of the great-toe in other animals. Thus, whatever part of God's work we contemplate, we clearly see the marks of his most consummate wisdom, in forming and adapting every creature for the element in which it is to move, and the means which it must employ for obtaining its support and sustenance.

THE OTTER.

The otter very strikingly resembles the beaver in its head and face. The ears are small; and, what is very singular and rarely to be seen, they are placed under the eyes, near the upper jaw, as in the beaver. The neck is short, and equal to the head in thickness; the nose and corners of the mouth are furnished with very long whiskers. It is provided with thirty-six teeth; above and below with six cutting and two canine, and five grinders on each side in both jaws. We can easily judge from the furniture of the mouth of this animal, what are its habits, and its means of support and mode of living. The hair of its body is short and of a chestnut brown, but under the belly of a paler colour. On each side of the nose there are two small spots of white, and another under the chin.

The otter is amphibious, living both in water and on land. Like the beaver, it will visit both the salt water and the fresh. Some otters have been observed swimming in the sea, and bringing their booty to the shore. This animal, on his fishing excursions, will swim two miles together, and always against the stream, that when his belly is full the stream may carry him down again to his lodging: this is invariably near the water, and is artificially built with boughs, sprigs, and sticks, couched together in excellent order. The entrance to its abode is always under water. It produces four young ones at a time. It ca easily be tamed; but St. James says, "The tongue can no man tame."

ORANGE-TREE.

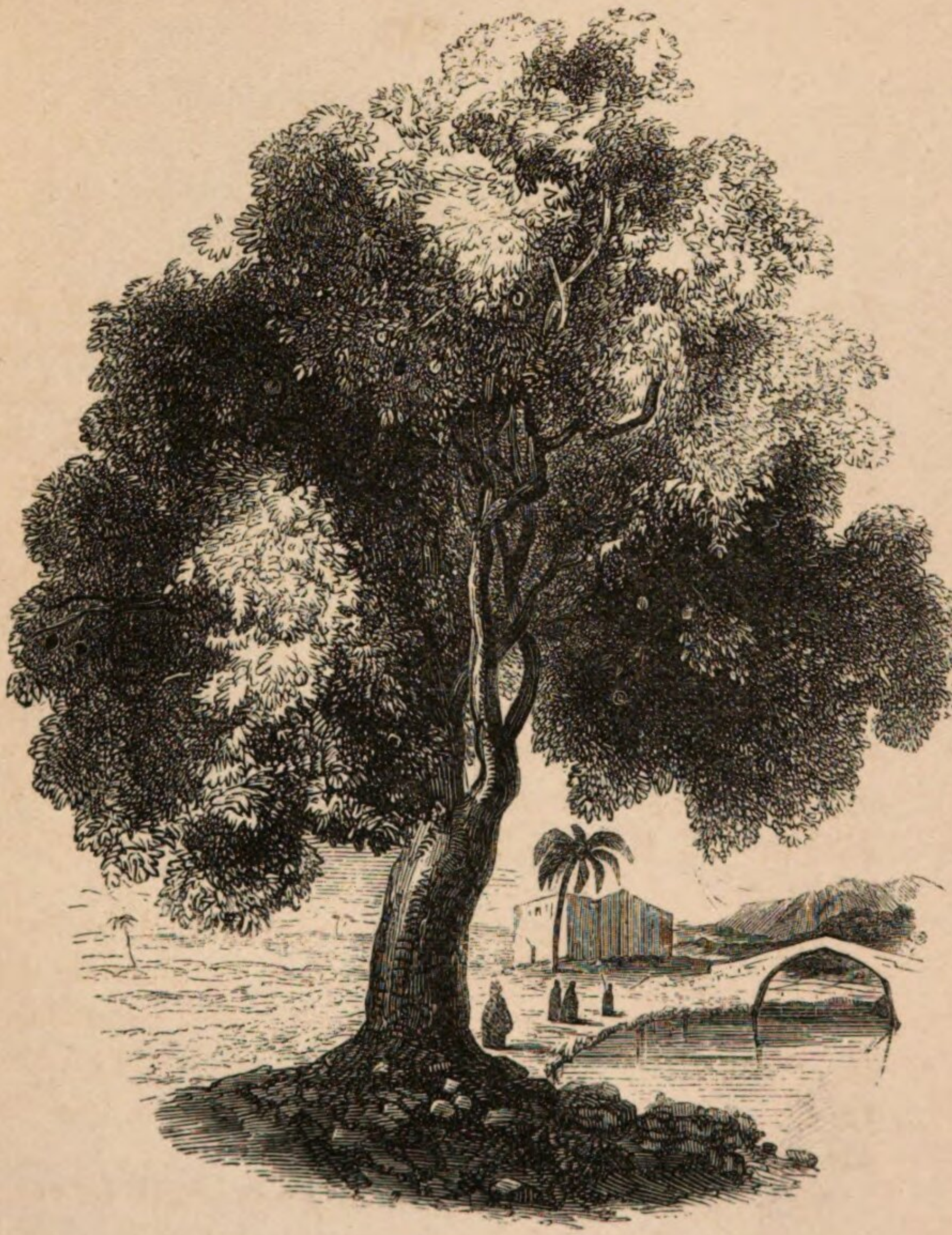
THE AURANTIUM, or *orange-tree*, is a species of the CITRUS, *or citron-tree*, which is a genus of the *icosandria* order, belonging to the *polyadelphia* class of plants. The orange-tree hath an upright trunk, dividing upward into a branchy, regular head, from five to twelve feet high. The leaves are oval, spear-shaped, and entire, having winged footstalks, and numerous white flowers at the sides of the branches, succeeded by globular fruit compressed at both ends.

As this tree ministers very much to our enjoyment, furnishing an abundant supply of wholesome, delicious, and refreshing fruit, some account of the varieties of this remarkable tree cannot fail to be interesting.

The Seville orange is very handsome and the hardiest of any. In the country from which it takes its name, it shoots freely; the leaves are large and beautiful, and the flowers rich and elegant; the fruit is large, rough-rinded, sour in the taste, and of excellent quality for several economical uses.

The China orange has moderately-sized leaves, and a smooth, thin rind, sweet fruit, of which there are several varieties in warm countries, where they grow in the open ground.

The great Shaddock orange grows larger and stronger



THE ORANGE-TREE

than those already mentioned. The leaves are large, thick, and somewhat serrated, the fruit very large, and having a reddish pulp. It receives the name Shaddock, from a person of this name who brought it from the East Indies.

The horned orange is a tree of moderate size, producing fruit which divides, and the rind runs out into divisions like horns; hence the name *horned orange.*

The dwarf orange-tree, or nutmeg orange, has a long stem and a small bushy head, growing to the height of two or three feet: the leaves are in clusters, and of a small oval shape: the flowers also are numerous in clusters, covering the branches, succeeded by very small fruit.

The fruits of the citron, lemon, and orange-trees furnish very agreeable acid juices, which, in addition to the common purposes to which they are applied, answer valuable purposes in medicine. When Commodore Anson sailed round the world, his men were surprisingly recovered from scurvy by the oranges which they found in the Island of Tinian.

In the sick chamber oranges have been found of great service to suffering patients. A poor, but pious man, when dying, remarked, "that he had an orange to refresh his mouth, while Jesus had nothing but wormwood and gall."

TAMARISK.

It is supposed by some that the name *tamarisk* is derived from *Tamarisci*, a people who inhabited a country situated on the other side of the Persians, where the most common species of this genus plentifully abound. Some are of a different opinion, which we consider the most likely to be correct, and think that the name is derived from the Hebrew word *tamaris*, which signifies to *purify*, or *cleanse*.

Tamarisk-tree, or *tamar*, in botany, is a genus of the *pentandria*, *trigynia* class. The characters of the genus are these:—the empalement of the flower is obtuse, erect, and permanent, and is cut into five parts; the flower has five oval, concave petals, which are spread open, and five hair-like stamina, terminated by roundish summits. It has an acute-pointed germen, without a style, crowned by three oblong, twisted stigmas; the germen, in the progress of its growth, turns to an oblong, acute-pointed capsule, with three corners, having one cell opening with three valves, containing many small, downy seeds.

The French tamarisk is a native of rocks, banks, or swampy ground, especially toward the sea. It is found very abundant in the south of Europe and in the north of Africa. They who take an interest in the beauties and wonders of the vegetable kingdom, and

THE TAMARISK.

who have visited the coasts of Sussex, Hampshire and Cornwall, must remember how much the lovely tamarisk, in its wild state, prevails in those parts of our island. At present it is common in English gardens, and was so as far back as the days of Gerarde, who has left behind him some description of this ornamental shrub. Camden, in his History of Queen Elizabeth, states, by mistake however, that the tamarisk was introduced into England in the year 1583 by Bishop Grindall, when it was considered as very useful in greatly alleviating that distemper called the spleen.

The tamarisk is common in most situations in Greece, and there is no doubt that it is the *μυρικη, murike,* spoken of by Dioscorides.

On the eastern coast of Italy it is the favourite food of sheep, and is rendered very acceptable to them by the saltish flavour, which is perceptible to our taste.

It is an elegant, drooping, slender-branched shrub, with smooth and shining twigs of mahogony-red; the leaves are minute, rather fleshy, lanceolate, acute, smooth, and deciduous; the flowers appear in July in copious, long, cylindrical clusters. In the autumn of 1842, I was delighted by seeing some handsome specimens growing immediately within the gate of the ancient castle of Hastings.

MAN.

אדם, ADAM. *Red earth.*

GEN. I. 27.—"*So God created man in his own image; male and female created he them.*"

MAN is the noblest creature found on the surface of this lower world. Look to his bodily figure, in its form, erect posture, proportion, symmetry, vigour, and agility; and look to his soul, a spirit, rational, invested with amazing powers, and impressed with the indelible property of immortality of nature, of imperishable existence, and the conclusion is irresistible, that among all the myriads of animated creatures belonging to this globe, he is not only the noblest and most exalted, but that he is more superior to them all, than the sun of day is to the feeble twinkling star.

As to his *bodily*, or anatomical structure, it exhibits, beyond all the other animals, a superiority and perfection of workmanship altogether surprising and matchless. The difference of works of human art cannot even assist us, in conceiving this difference in God's marvellous works. The workmanship of the finest watch, or chronometer, is not so superior to the rude wheeled vehicle drawn by an African ox, as the Divine work in the formation and structure of the human body is superior to the corporeal mechanism of the body of the nightingale.

But the corporeal is the least part of man's superiority to the other tribes of the terrestrial portion of the Divine dominions. Consider the immortal mind which dwells in the tenement of clay, a soul, a spirit, an emanation from the Deity, and originally adorned with a most astonishing resemblance to the moral attributes of Jehovah. (Gen. i. 27.)

How wonderful the relations and the alliances of man! By his body he is related to earth; by his soul he is allied to heaven: by his body he is related to the irrational tribes; by his soul he is allied to angels, and even to God himself. By his corporeal nature he is related to time; by his mental he is allied to eternity. What a mystery is man!

Alas! man is a fallen being! By rebelling against his Creator in Eden, he plunged himself and his descendants into the depths of moral impurity, guilt, and misery. God might have left him by an act of justice: but mercy prevailed! The scheme of human redemption was contrived, revealed, and accomplished. By the incarnation, obedience, sufferings, and death of the humanity of the second person of the adorable Trinity, the honour of the Divine attributes is vindicated, and salvation obtained for countless myriads of our fallen race! Halelujah!

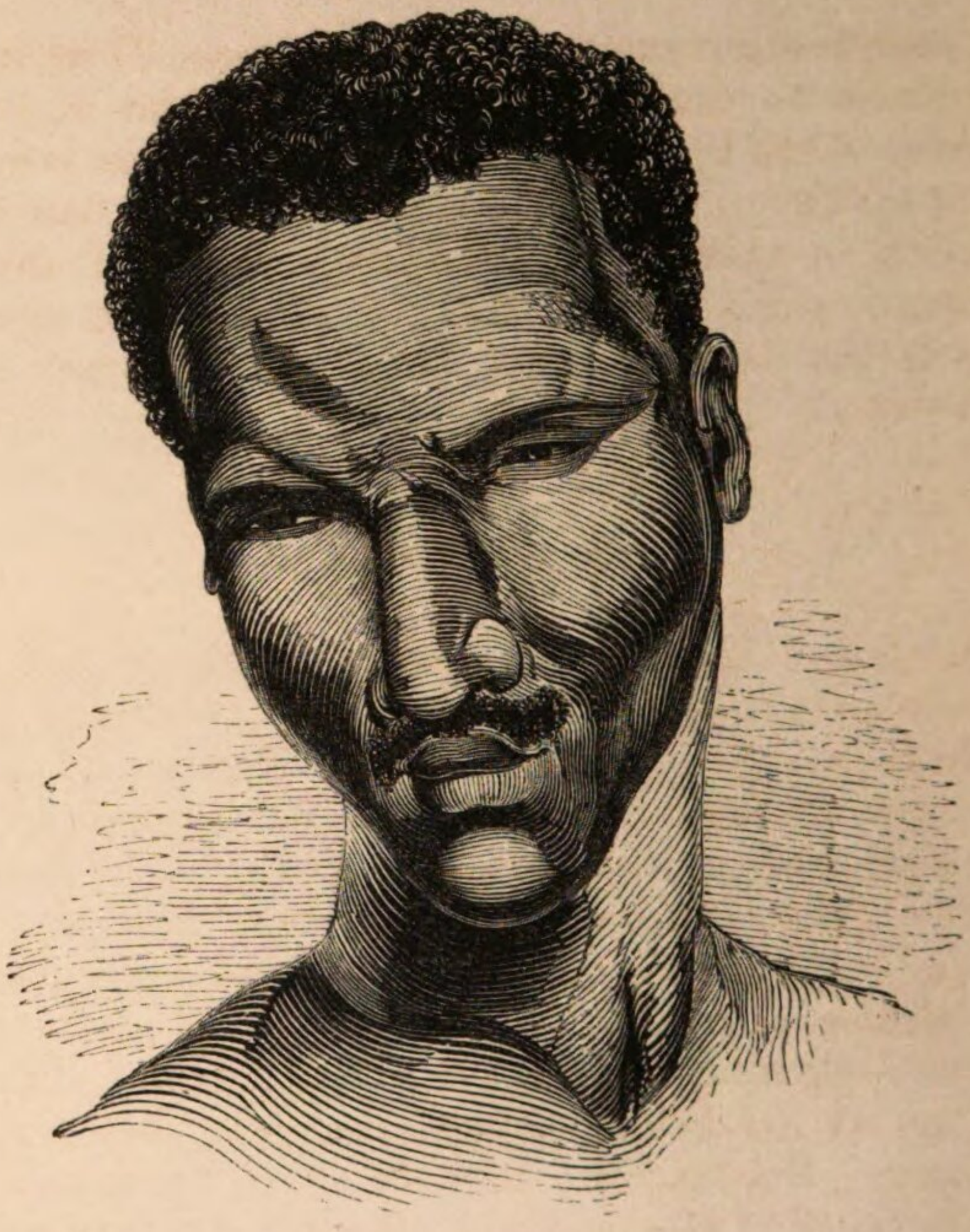
THE DIFFERENCES OF THE HUMAN RACE.

So great and numerous are the varieties which prevail among the tribes of the family of man, that some have been led to conclude that they could not possibly have descended from one common origin. This opinion is at variance with the revelation which God has given of man's first creation. Such an opinion, however, is almost universally exploded. With the astonishing physical differences which exist, sound physiologists see and acknowledge that there is nothing incompatible with the scriptural account. The following fact sets the controversy at rest, and proves mankind to be a *single species*, namely, "that the indiscriminate intercourse among the numerous tribes of the human race of all colours, and climes, and nations, is followed by the production of an offspring capable of propagation to the close of all ages."

THE NEGRO.

The negro race is confined to the south of Mount Atlas, a geographical name given to a chain of mountains in Africa, lying between the 20th and 25th degree of north latitude, and supposed almost to divide the continent from east to west. The characters of this race of human beings are, black complexion, woolly

THE NEGRO.



CAFFRE.

hair, compressed cranium, and flattish nose. There is a resemblance to the monkey tribe, on account of the thickness of the lips and the prominence of the lower part of the face. It is affecting to think of the state of barbarism in which the myriads have continued until the present time. Is not this the curse resting upon them as the descendants of Ham, the youngest of Noah's sons?

THE CAFFRES.

The Caffres inhabit that eastern region of Africa which extends from the Fish River to the Straits of Babelmandel. They differ from the Negroes by superior mental talents and more warlike dispositions. Their black tinge is not so deep, and is less glossy; their faces are shorter; their features are more handsome; their body is very robust, well-formed, and taller and more slender than that of the Negroes. Compared with the Hottentots, their figure is more graceful, their countenances are not so narrow, nor their cheeks so prominent. Neither have they the broad, flat faces of the inhabitants of Mozambique. Were it not for their colour, many of their females would be deemed beautiful even by Europeans. They tatoo themselves much, and wear their hair frizzled. Those who have not been brought under the civilizing influence of Christianity go naked in hot weather, but in winter they

throw a *kross* of calf's or ox's skin over their shoulders, which reaches to the ground. Their huts are more capacious and also more regularly constructed than those of the Hottentots, who, in their wild state, are so little removed from the brutal tribes. The frames of their dwellings consist of wood, and plastered within and without with cow-dung mingled with clay. Their women discover very considerable ingenuity in forming vessels of clay, and in weaving baskets of so close a texture, as to be capable of holding milk or water. The Caffres are more disposed to follow the pursuits of agriculture than the other tribes; neither would they wander unless they were compelled by an enemy. The fields are chiefly prepared for receiving the seed by the women: they practise the rite of circumcision, but not as a religious observance. In modern days, and under the labours of the London Missionary Society, multitudes have become subject to the Christian faith, and are discovering to an astonishing extent, the moralizing influence of divine truth. That lovely prediction is now fulfilled, "Ethiopia shall stretch forth her hand to God."

THE MONGOLIAN, INCLUDING THE CHINESE.

The Mongolians are a people of very ancient origin, and whose dominions are of great extent in the north-western parts of Asia. They have rendered themselves

MONGOLIAN.

very conspicuous by the conquests they have gained, and by the revolutions they have produced in the state of governments and of mankind in successive ages. Both the Mongolians and the Tartars are considered to be the descendants of Japhet, the eldest son of Noah.

The Mongolians, if their colour is laid aside, bear very little resemblance to any other tribes of people, so very marked and characteristic are their traits of physiognomy. Their eyebrows are black, scanty, and forming a low arch. Their nose is generally short and flattened towards the forehead. Pallas says, "They are well made, and I do not remember to have seen a deformed person. They entirely abandon their children to nature; hence they are all healthy, and have their bodies well proportioned."

The vast empire of China is inhabited by races of people who so strongly resemble each other in the peculiarities of body and mind, and in the general character of their language, as to give rise to the opinion, that they have all originated in one common source. A learned writer on the natural history of man, makes the following observations on the Chinese. "They have long been the most numerous and powerful of Asiatic nations. In the time of Confucius, five centuries and a half before Christ, they had not conquered the country to the northward of the Yang-tsi-kiang, the River of Nanking. The empire of China was probably founded by Shi-hoang-ti, who lived two hundred and fifty years before our era." Gutzlaff

says, that at Teintsin, he found the inhabitants more like Europeans than any Asiatics whom he had seen. The characteristics of the Chinese countenance are breadth and flatness in the sub-orbital region of the face and the angular position of the eyes.

Let us rejoice that this vast empire is now open to the introduction of the gospel of Christ.

EGYPTIAN.

Ancient history is more full of the account of the Egyptians in distant ages than of any other race of people. Herodotus, the father of historians, informs us, that they were black in complexion, and woolly-haired. Æschylus mentions the crew of an Egyptian bark as seen from an eminence on the shore; the person who espies them concludes them to be Egyptians from their black complexion:—

> "The sailors too I marked,
> Conspicuous in white robes their sable limbs."

It is interesting to consider the form and characteristics of the skulls of ancient Egyptian mummies. The Egyptian skulls were generally of that form which belongs to all the most ancient civilized races, namely, the oval; but there were great varieties among the people in this respect. Most of them resembled the

EGYPTIAN —HEAD OF RAMESES.

ABYSSINIAN.

European skull in many particulars; but in some a certain approximation to the African has been observed, or fancied.

The Copts are well known to be the descendants of the ancient Egyptians, and therefore it is proper in this place to make some mention of them. As the Greek and Roman colonists were probably confined chiefly to the Delta, and a few Greek and Roman cities, the Egyptian race remained nearly unaltered in the interior and remote parts of the country. This we naturally infer from the preservation of their language. Among the modern Copts, many travellers have noticed a very considerable resemblance to the Negro. Volney says that they have a yellowish dusky complexion, neither resembling the Grecian nor Arabian. He adds, that they have a puffed visage, swollen eyes, flat nose, and thick lips, and bear much resemblance to Mulattoes. M. Denon says he was struck with the resemblance of the Copts to the old Egyptian sculptures, characterized by flat foreheads, eyes half-closed and raised up at the angles, high cheekbones, a broad, flat nose, very short, a large flattened mouth at a considerable distance from the nose, thick lips, and a shapeless body.

ABYSSINIAN.

Abyssinia is an empire of Africa, situated in the torrid zone. The surface of this country is generally

rugged and mountainous; it abounds with forests and morasses, and is interspersed with many luxuriant valleys and plains. The rivers are numerous, and therefore greatly contribute to the fertility of the country.

The persons of the Abyssinians are generally tall and well made; their features are duly proportioned, their eyes large and of a sparkling black colour, their noses rather high than flat, their lips small, and their teeth extremely white and handsome. As to their natural temper, they are good-humoured, mild, and placable. In their common conduct they are sober and temperate. They have both a capacity and an inclination of acquiring knowledge, but hitherto have been almost completely without the means. They are strongly attached to superstitious and ceremonial observances, and consider it one of their first duties to show the greatest deference to their priests. As they are much inured to war and scenes of blood, and as they are accustomed to feed on raw and living flesh, they necessarily contract an obduracy of temper, and remain in a state of barbarity.

The covenant of marriage is very little respected in Abyssinia, and the absence of all the endearing comforts of the social relations of life shows how much the inhabitants of that country stand in need of a purer description of Christianity than they have ever enjoyed.

Their funerals are attended with many foolish and superstitious ceremonies. The relations and a number of hired mourners bewail the dead for many days to-

MODERN OTTOMAN.

gether, with shrieks and lamentations, clapping of hands, smiting their faces and breasts, and uttering a variety of affecting expressions in the most doleful tone.

It is supposed that the Queen of Sheba, who admired the wisdom of Solomon, was sovereign of this country. Soon may its rulers and tribes admire the wisdom of Christ.

MODERN OTTOMANS, OR TURKS.

The Turks, or modern Ottomans, are generally a well-formed and robust race of men. Their physiognomy is handsome and noble, their complexion tawny, and their hair black, or dark brown. The Turks shave the head, but retain the beard as a symbol of manhood, and are extremely proud of their mustachios.

We can only very briefly allude to the manners and customs of the Turks. Marriage among them is a civil, and not a religious contract, and is liable to be dissolved by the caprice of either party. They observe the ancient rite of circumcision, not when the child is eight days old, but at the age of twelve or fourteen. They employ incense in perfuming the dead, who are buried in a shroud open at both ends, that the deceased,—foolish imagination!—may be able to sit up and reply to the interrogatories of the angels of death.

Burial-grounds are commonly near the highways, and are very extensive, as one grave is used only for one individual. The Turks are a temperate people, moderate in their diet, and their favourite food is rice. Their meat is usually spread on a low wooden table, over which the master of the house pronounces a short prayer. Their dress consists of a calico shirt, and the loose robe is fastened by a girdle, in which is stuck a dagger: the robe is commonly made of English broadcloth, trimmed with fur. In their persons the Turks are very cleanly; the females, however, stain their nails with a red tincture.

The religion of the Turks is the Mahometan; while, in the European division of the empire, it is supposed that two-thirds of the inhabitants belong to the Greek church. For centuries the Sultan has been considered a sacred person, and indeed the head of the Mahometan faith. Their chief priest is called Mufti, and resides at Constantinople.

The Mahometan faith originated about the same time with the Roman Catholic system, and is considered as figuratively represented, in the book of the Revelations of St. John, by the River Euphrates, on the banks of which the false prophet was born. It is the opinion of many, that as their rise so their fall will be simultaneous, and be substituted by that pure faith which can only be derived from the Bible, the oracles of eternal truth.

APOLLO BELVIDERE.

APOLLO BELVIDERE;

OR ONE OF THE MOST PERFECT REPRESENTATIONS OF THE HUMAN FORM.

The ancient Greeks carried the art of statuary to a degree of elegance and perfection which has never been equalled, and which has justly excited the wonder of every succeeding age. Specimens, which are considered more precious than gold, are preserved with the most astonishing care in the most distinguished museums of Europe, which are maintained by the munificence of kings and by the wealth of empires.

There is a marble statue, commonly know by the name of "Apollo Belvidere," a short account of which we venture to introduce into these pages, as it is justly considered one of the most perfect representations of the *human male figure*, which has ever been furnished by the art and genius of man. And here we may pause to observe, what an amazing display of divine wisdom and power is furnished by the human body, which, for elegance, proportion, beauty, and exquisite workmanship, so infinitely exceeds all other description of bodies in the boundless family of animated creatures!

In heathen mythology, Apollo was an imaginary deity, worshipped by the Greeks and Romans. What thankfulness should inspire our hearts, that we are delivered from pagan idolatry! Apollo was con-

sidered as the god of light and poetry, and was regarded as the inventor of the fine arts. In ancient statues he is chiefly distinguished by the beauty of his face and the gracefulness of his figure. Virgil calls him the "beautiful," and Tibullus, "the well-shaped god."

The Apollo Belvidere was in the first class of the ancient statues. Its excellence consists in the expression of something far superior to any other representation of the human countenance and form, whereas, the rest only excel in things that are common to men. This statue may justly enough claim the preference, even in the superior and distinguished class of the best remains of all antiquity.

Let us, in conclusion, look onward to the resurrection morning, when the bodies of the saints shall appear in all the loveliness and glory of an immortal existence, and when God shall liken them to Christ's glorious body!

THE SOUAKING, OR SUAKING CHIEF.

Speaking of the African nations bordering on Egypt and Abyssinia, the learned Prichard remarks, "The countries above Egypt are inhabited by two races of people resembling each other in their physical characters, but of distinct language and origin. I will divide them into Eastern Nubians, or Nubians of the Red

A SUAKING CHIEF.

Sea, and Nubians of the Nile, or Berberines. All these tribes are people of a red-brown complexion, their colour in some instances approaching to black, but still differing from the ebony hue of the Eastern Negroes. Their hair is often frizzled and thick, and is described to be even woolly, yet it is not precisely similar to the hair of the Negroes of Guinea."

The Suaking Chief belongs to the Bisharene tribe of the family of Nubians, a race spread through the eastern deserts of Nubia, and through the mountain districts eastward of Egypt, along the borders of the Red Sea. This tribe is nomadic, fierce, and inhospitable. They are said to drink the warm blood of living animals. The Bishari are shrewd, intelligent, of small stature, active, and of a prepossessing countenance, some with the cast of the Negro, and others of a very fine profile: their complexion is nearly black; they go constantly armed, and are seldom free from quarrels, in which they delight. Their females are beautiful; their complexion dark brown, their eyes and teeth fine, and the symmetry of their figures slender and elegant.

Belzoni says, " that their hair is very crisp; their head-dresses are very curious. Some of them are found to have their hair long enough to reach below their ears, and then formed into curls, which are so entangled and matted with grease, that they cannot be combed. That they may not derange their *coïffure*, they wear a piece of wood resembling a packing-needle, with which they scratch their heads."

The annexed figure of the Suaking Chief will serve as a specimen of their portrait.

Glorious will be that day, when all the tribes of mankind shall constitute one moral, spiritual, intelligent, evangelized family, knowing, loving, and worshipping the Triune Jehovah, and enjoying the countless blessings and advantages of the mediatorial kingdom of Christ.

"Jesus shall reign where'er the sun
Does his successive journeys run,
His kingdom stretch from shore to shore,
Till moons shall wax and wane no more.

"Blessings abound where'er he reigns,
The prisoner leaps to lose his chains;
The weary find eternal rest,
And all the sons of want are blest."

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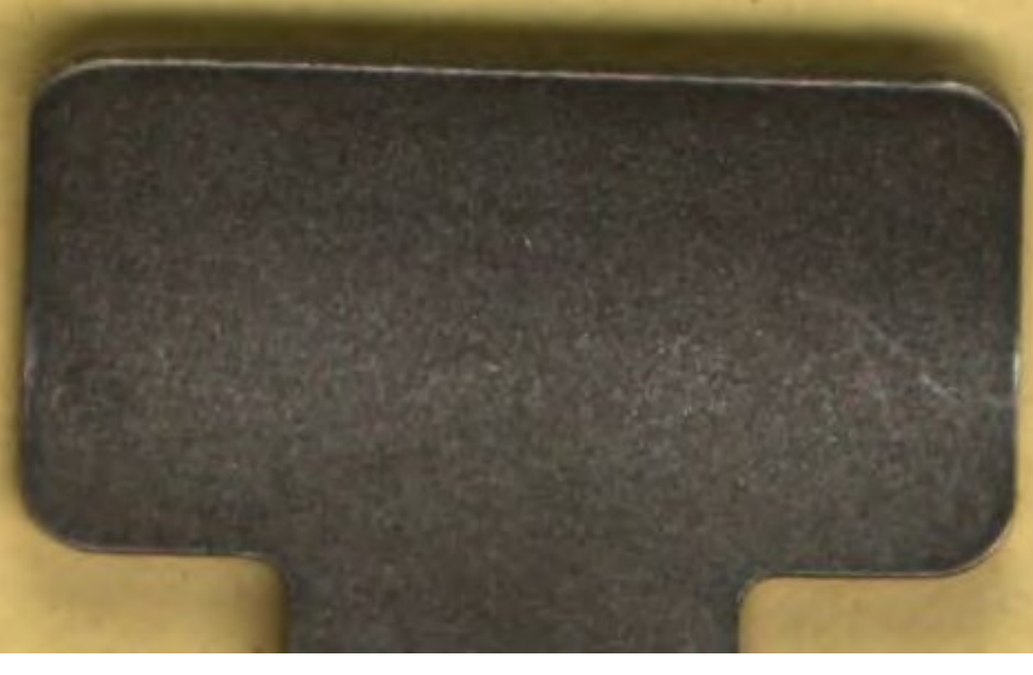

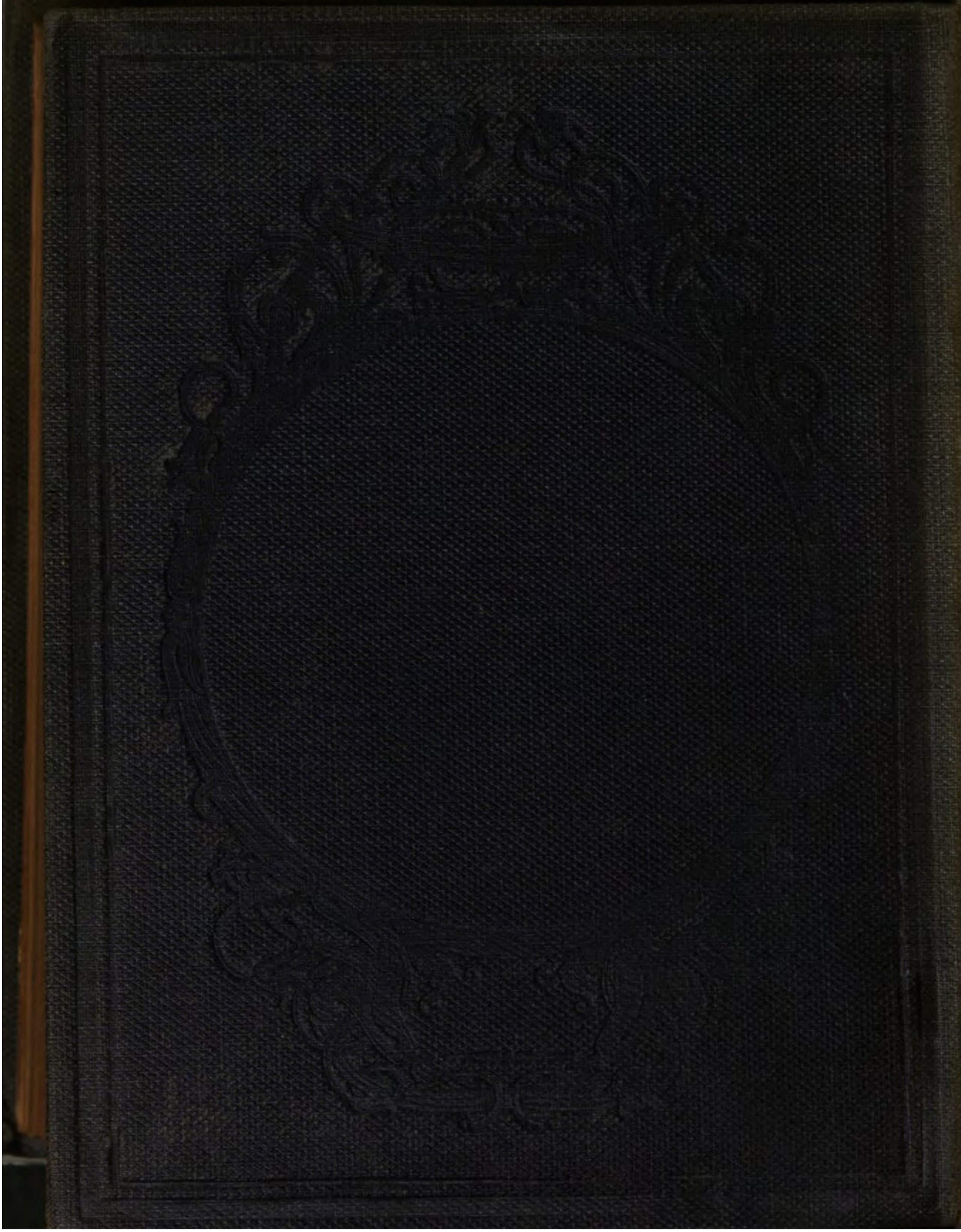

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